Smithsonian

OCTOBER 2001

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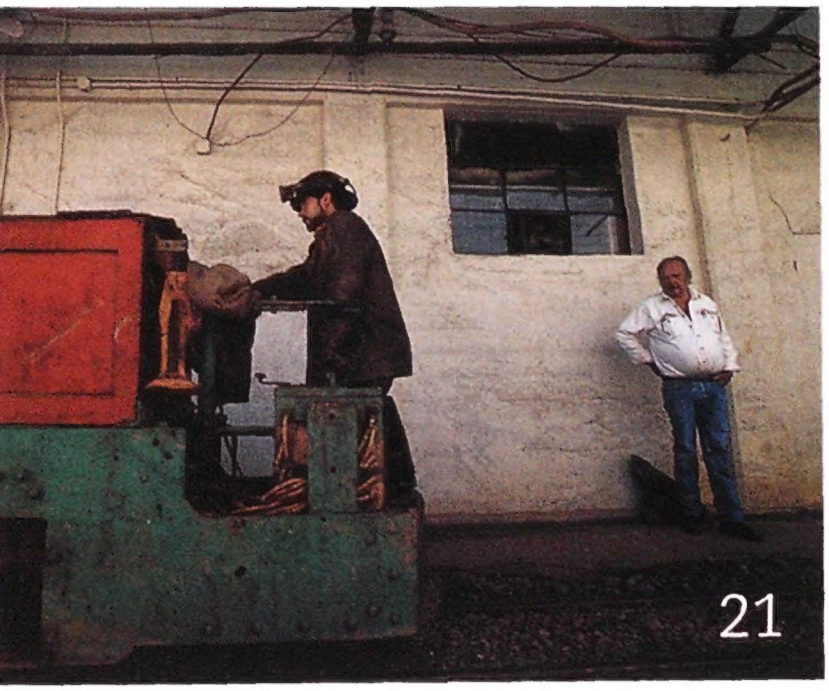
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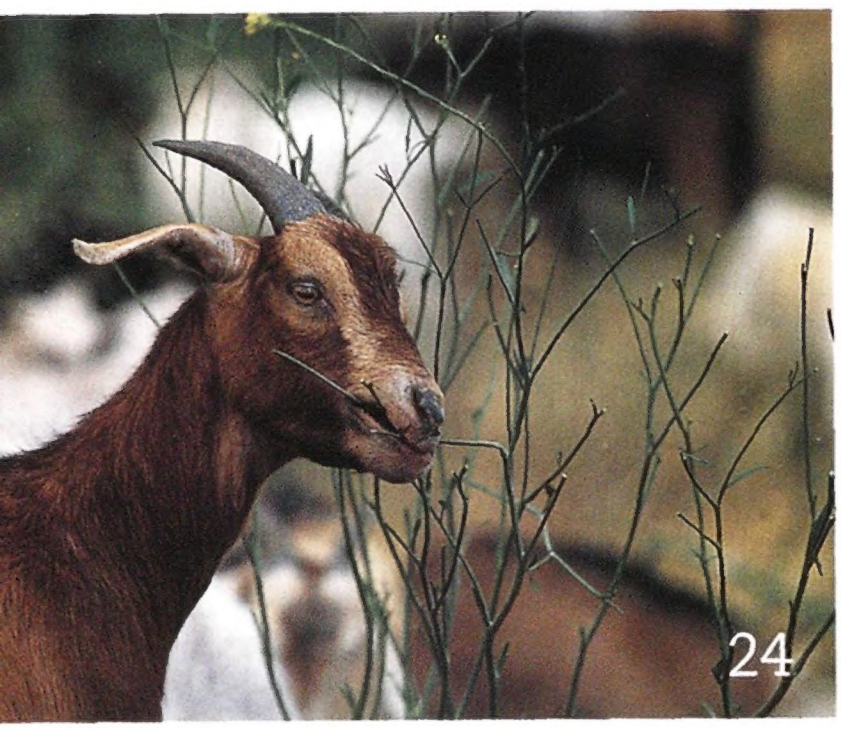
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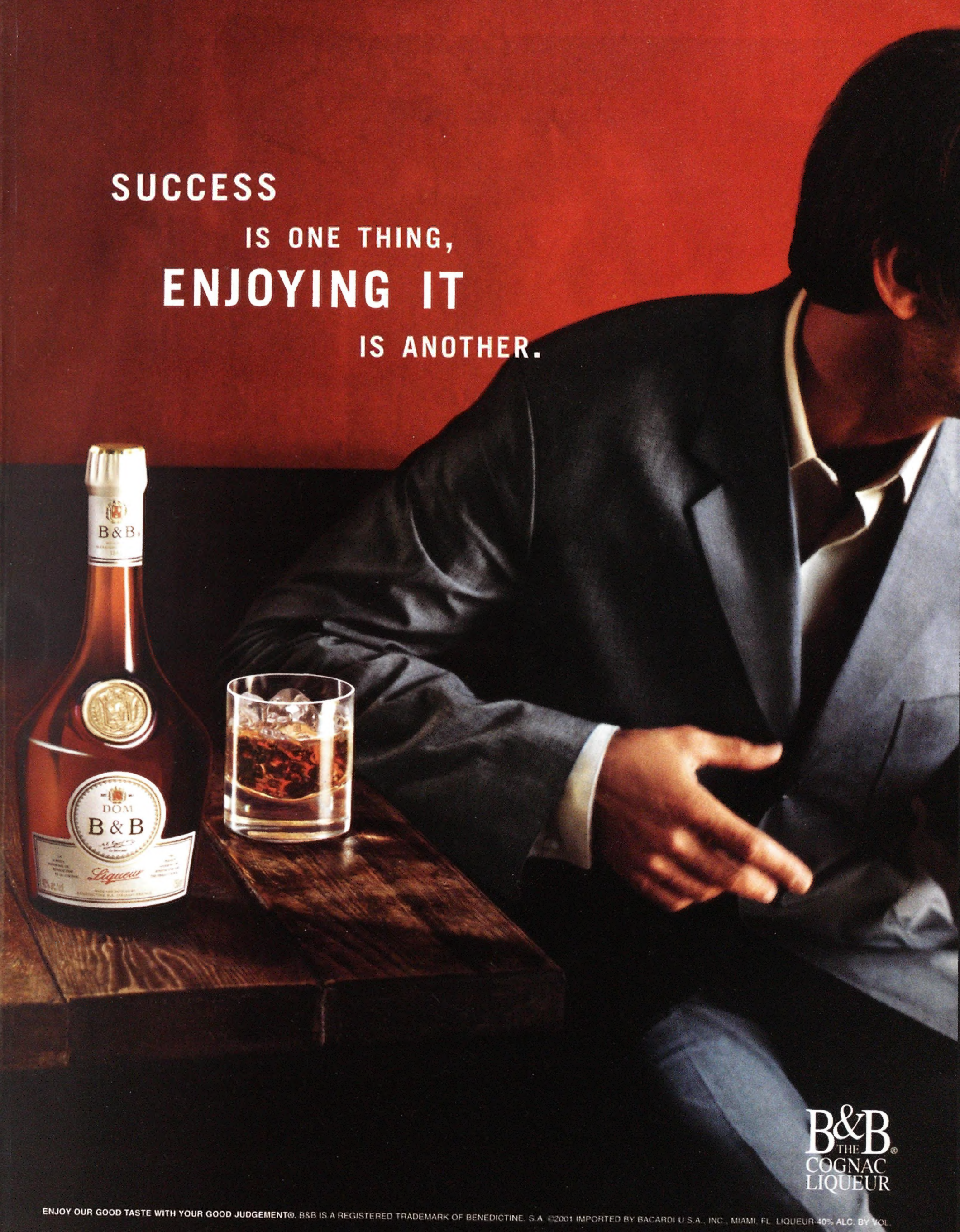
On the Cover: Four-year-old Hannah Lee Funk, the daughter of a Vermont Teddy Bear Company employee, was photographed at the Shelburne Museum in Vermont with her two favorite teddies.

PHOTOGRAPH BY THEO WESTENBERGER

JASON MILLSTEIN; EUDORA WELTY COLLECTION, MISSISSIPPI DEPARTMENT OF ARCHIVES AND HISTORY; JIM LEACHMAN



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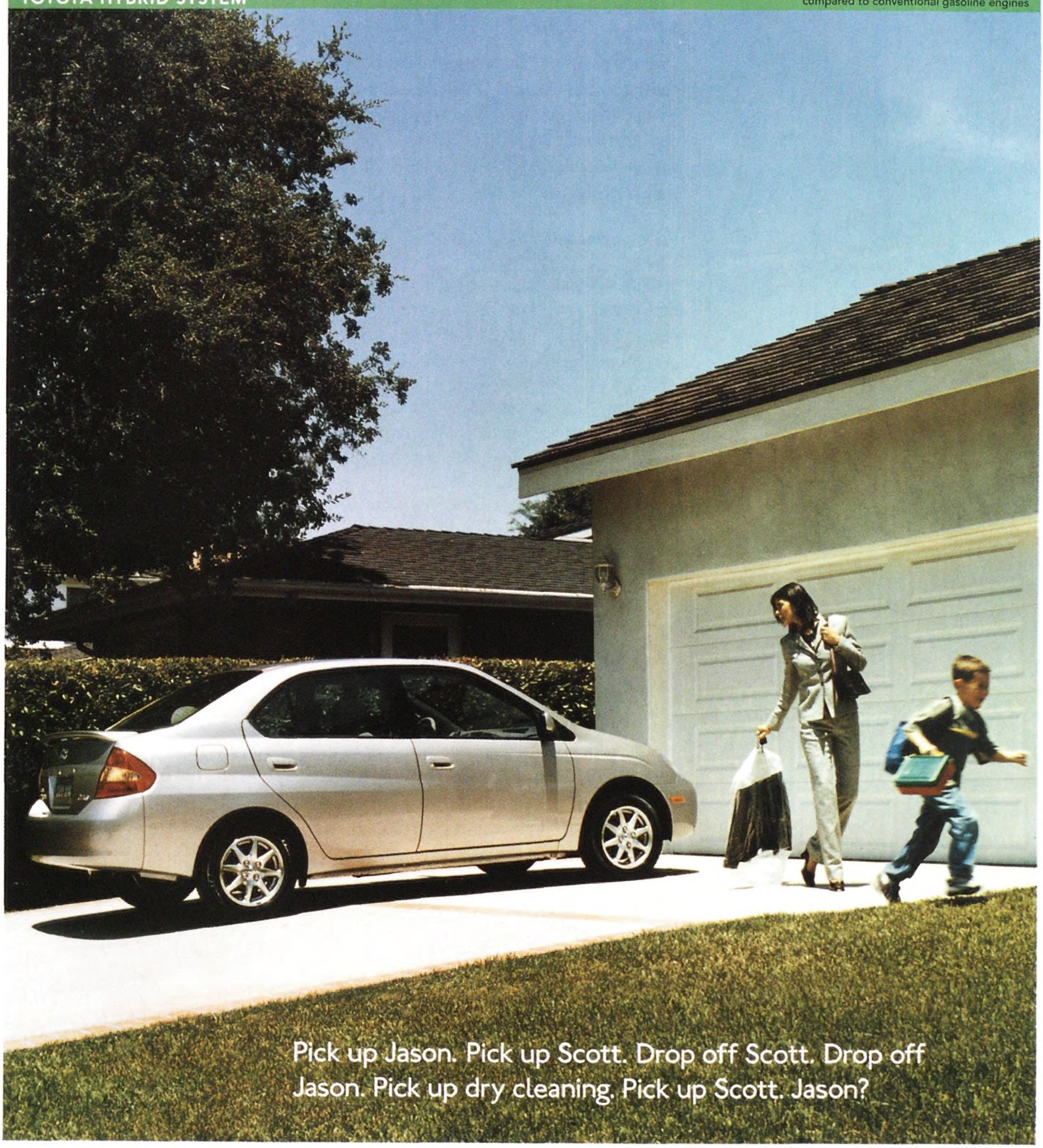

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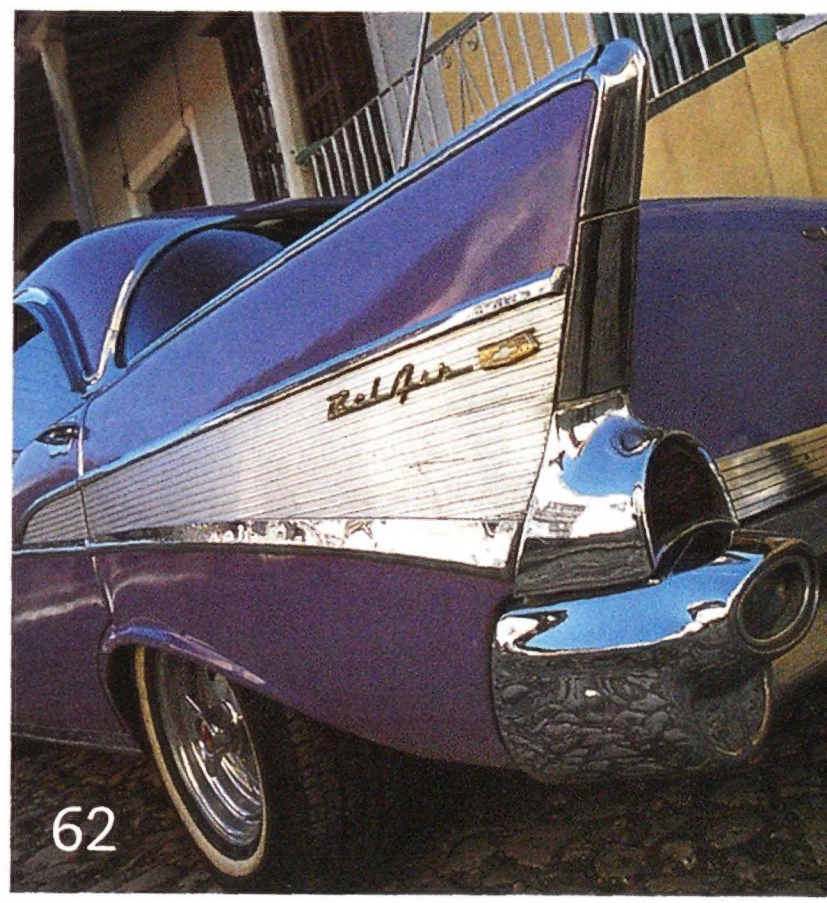
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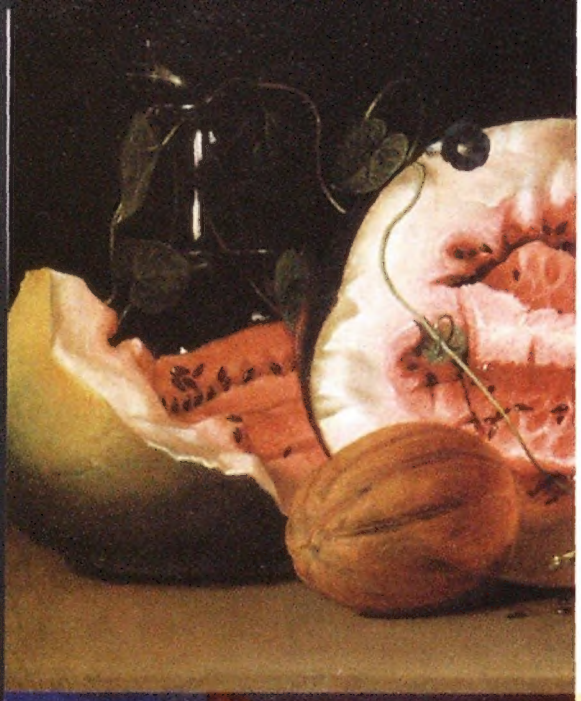
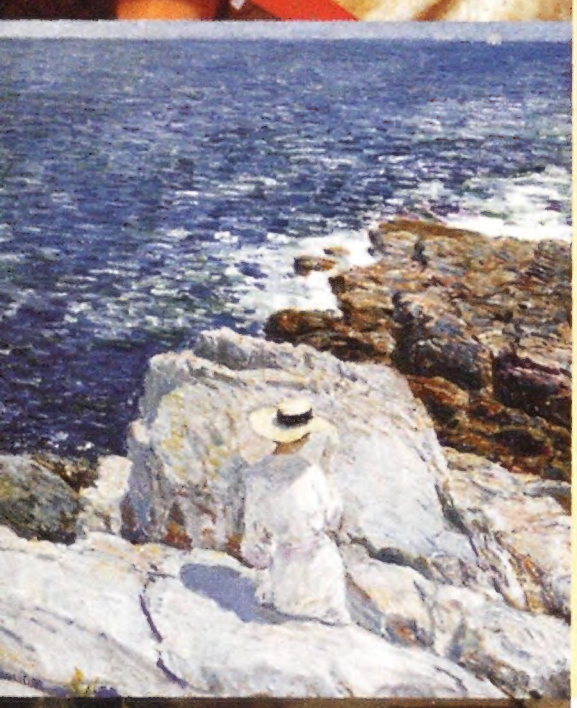
HULTON GETTY ARCHIVE/LIAISON AGENCY; THOMAS MICHAEL ALLEMAN; SCOTT S. WARREN





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images: Raphaelle Peale, *Melons and Morning Glories* (detail), 1813, Charles Bird King, *Young Omahaw, War Eagle, Little Missouri, and Pawnees* (detail), 1821, Childe Hassam, *The South Ledges, Appledore* (detail), 1913, John Singer Sargent, *Elizabeth Winthrop Chanler* (detail), 1893, Edward Hopper, *Cape Cod Morning* (detail), 1950, Patssi Valdez, *The Magic Room* (detail), 1994, Willem de Kooning, *The Wave* (detail), about 1942–44, Malcah Zeldis, *Miss Liberty Celebration*, 1987

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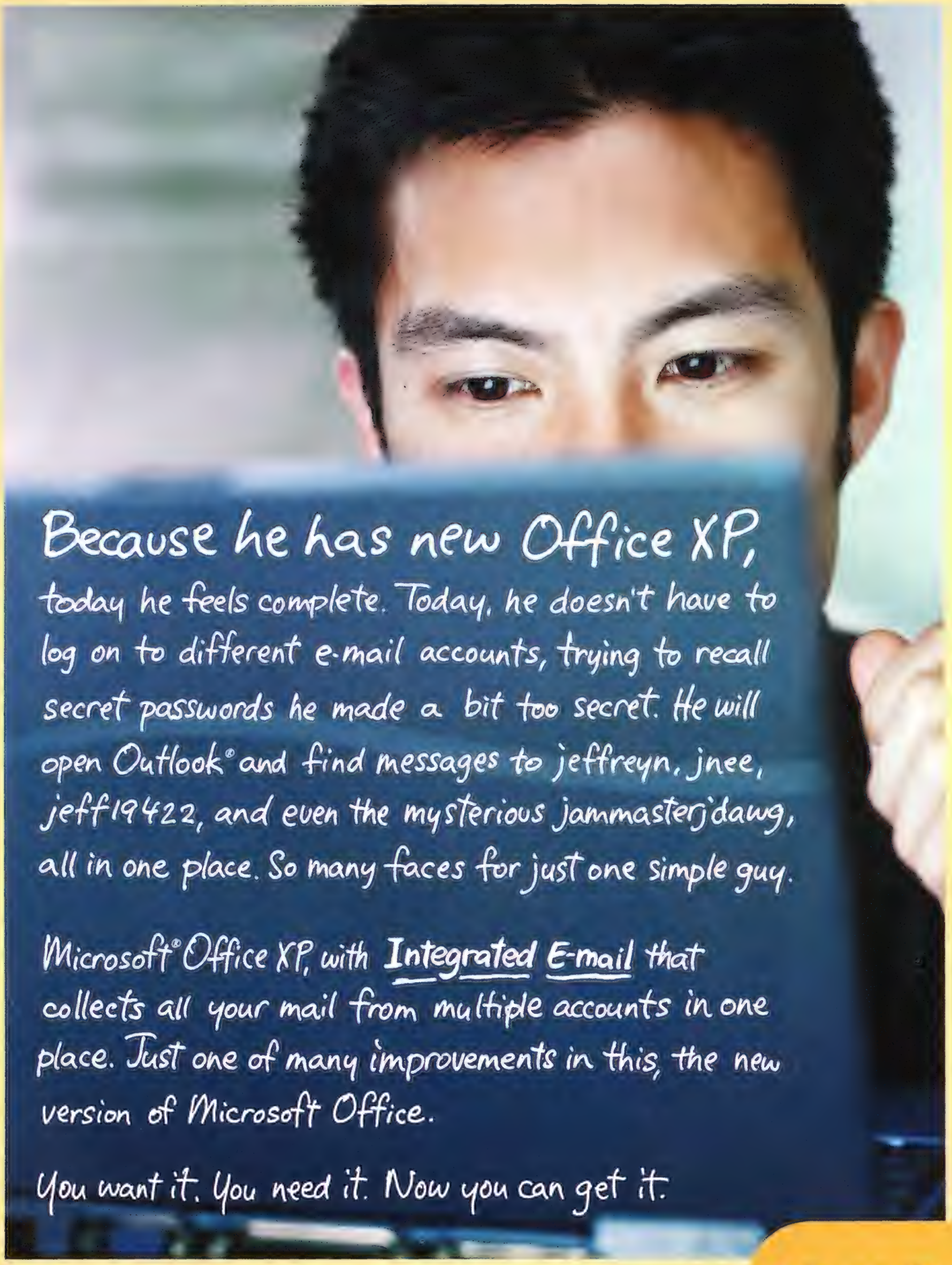
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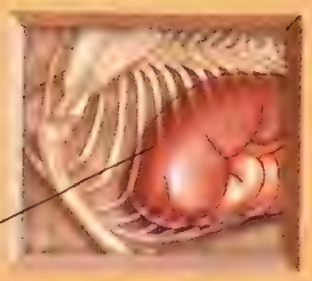

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Taken by Surprise

FROM THE SECRETARY

THE SMITHSONIAN'S NATIONAL MUSEUM OF AFRICAN Art (NMAfA) keeps its treasures underground, like diamonds in the African earth. Its granite entry pavilion dominates a corner of the spectacular garden behind the Smithsonian Castle. But the museum itself—its spacious galleries, elegant public spaces, library, world-class photographic archives with some 300,000 prints and transparencies, conservation laboratory and busy offices—takes a bit of discovering. It extends for several levels *beneath* the garden. (The entry pavilion is soon to be transformed into an even more dramatic space, with objects and video installations that introduce audiences not just to the contents of the museum but to the continent of Africa.) The descent brings visitors to an environment that attempts nothing less than to honor the legacy of all of Africa in the visual arts.

Small Iriabo makes NMAfA visitors smile—on the hour.

You cannot understand America without understanding the traditions of the peoples who created this country. There were Africans in America before there were Pilgrims, which is one reason the Smithsonian is such an appropriate home for an African museum. In fact, NMAfA is the only museum in the nation wholly dedicated to collecting, preserving and displaying the art Africans have made down through the ages—and the art they are making still. Along with the objects you would expect to find in such a collection—painstakingly embellished masks, ceremonial implements, statues, bottles and bowls—are paintings, sculptures, tapestries and photographs from our own day, done by African artists who have carried their heritage far from the continent and who belong to an international art community. A piece of pottery centuries old, its creator anonymous, and a bowl created within the decade and signed by the artist may be only steps away from each other, one made for a village, the other for the world.

What gives so many of these objects a special appeal is their connection to daily life and human action. There are, for example, cooking pots with elaborate lids. There is an assortment of 19th-century snuff containers. There are carved wooden headrests of various heights for elevating the neck in sleep, and wooden stools of every size and degree of elaboration, fit to cradle the bottom of a child or a chief. The stools and pipes and baskets did not start out as art (just as ancient Greek vases now displayed as treasure were once employed as implements of commerce and convenience). They have that status today not simply for their inherent beauty but for the happy accident of their survival. Though isolated in display cases, the objects carry an enduring history of human attachments.

One of the great pleasures of exploring NMAfA is to observe the juxtaposition between exhibitions that feature traditional objects and those that take traditional forms down new paths. Few artists better illustrate the continuity between the traditional and the contemporary in African art than the sculptor Sokari Douglas Camp, who lives in London but whose work takes its inspiration from the ceremonies and festivals of her Nigerian homeland. Had Douglas Camp abided entirely by tradition, she would have learned to make baskets and fishing traps, and to express herself artistically by serving as priestess to a deity. But she would not have worked with springs and wheels and motors—men's stuff—as she does in her modern and playful sculptures, several of which are exhibited in the museum. Douglas Camp's *Small Iriabo*, for example—fashioned of steel, copper and wood, and finished with red paint—represents a young Kalabari Ijo girl. Because the piece is elevated on a pedestal in the middle of a gallery, you can't help but notice it. But time your visit right, and you won't just *see* it. On the hour, from 11 A.M. to 4 P.M., *Small Iriabo* comes to life. A motor, lodged in the sculpture and linked to an arm, sets the girl to clapping—and the sudden, raucous action sets visitors to smiling. Expecting, perhaps, to find the Africa they think they know, they discover as well an Africa that takes them by surprise.

LAWRENCE M. SMALL, SECRETARY

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—Rod Gangwish, farmer

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Biotechnology allows farmers to choose the best combination of ways to help grow their crops. It helps cotton farmers use fewer chemicals to protect their crops against certain pests. And, it's helping provide ways for developing countries to better feed a growing population. And, in the future, it can help farmers grow better quality, more nutritious food.

Biotechnology is also enhancing lives in other ways, helping to create more effective treatments for diseases such as leukemia and diabetes.

Biotechnology is helping create solutions that are improving lives today, and solutions that could improve our world tomorrow. If you're interested in learning more, visit our Web site or call the number below for a free brochure about biotechnology and agriculture.

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patients demanding the latest, greatest medications, such advice wouldn't fly.

Despite access to samples of pain relievers as they come on the market, when I need relief for inflammatory illness, I opt for two or three aspirin.

Gordon K. Tagge, M.D.
Wenatchee, Washington

ASPIRIN

AS JAKE PAGE POINTED OUT, ASPIRIN has been implicated in Reye's syndrome when it was given to a child with chicken pox or the flu. Some people feel, therefore, that aspirin should never be given to children. However, children with certain conditions, such as rheumatic fever and Kawasaki disease, can benefit greatly from aspirin. In the former, aspirin reduces inflammation of the heart; in the latter, it prevents complications of coronary artery aneurysm. In infants with severe birth defects of the heart, aspirin is used to prevent blood clots after surgery.

With proper education, complications can be avoided, and with the increased use of vaccinations against chicken pox and influenza, these concerns should diminish.

Mark Vranicar, M.D.
Division of Pediatric Cardiology
University of Kentucky Medical Center
Lexington, Kentucky

GILBERT STUART

IT IS WONDERFUL NEWS THAT THE National Portrait Gallery will showcase, forever, Gilbert Stuart's "Lansdowne" portrait of George Washington, as noted in Stanley Meisler's informative article "The Painter and the President."

Washington sat for many artists during his Presidency, at one point complaining about the time-consum-

ing, bothersome demands: "I am so hackneyed to the touches of painter's pencil that I am altogether at their beck and sit like Patience on the monument." He also worried about the abuse on the dignity of the office of the Presidency, not wanting to be treated as a monarch would be, that is, appearing throughout the land in oil paintings and statues.

George W. Nordham
Winter Springs, Florida

I WAS DELIGHTED TO SEE OUR MAGISterial portrait of Thomas Jefferson by Gilbert Stuart reproduced in your magazine. The credit line, however, misspelled Bowdoin and misplaced Bowdoin College in Massachusetts.

Katy Kline
Director
Bowdoin College Museum of Art
Brunswick, Maine

AROUND THE MALL AND BEYOND

"CAMPING AT THE ZOO" BY MICHAEL Kernan reminded me of my most exciting experience while in boot camp at the U.S. Marine Corps Recruit Depot in San Diego, California. A few of us were moved into a tent city at Balboa Park Zoo between 1942 and 1943. During the day, we were kept busy policing the area. At night, we were kept alert by the wild animals. What a mixture of sounds!

L. H. Davis
Houston, Texas

KIT FOXES

I HAVE LIVED IN LAS VEGAS FOR 50 years and have been all over the Mojave Desert, but I've seen kit foxes only from a distance. Recently, however, at the Las Vegas Country Club's No. 5 tee, about half a mile from the Vegas Strip, a little fox watched from 30 yards away as I hit a golf ball, then ambled away in disgust.

Charles W. Deaner
Las Vegas, Nevada

COMDEX

YOU INCORRECTLY REFERRED TO THE International Alliance of Theatrical Stage Employees (IATSE) as the International Association of Theatrical Stage Hands (IATSH).

Kat Curtis
IATSE Local 28
Portland, Oregon

IS IT TRUE THAT PHOTOGRAPHERS were actually using flashcubes when they fired "salvos of flashcubes" at Microsoft's Bill Gates?

George Hood
West Hills, California

Not literally true. We are revoking our author's poetic license. Ed.

THE OBJECT AT HAND

MY 12-YEAR-OLD SON AND I RECENTLY read *From the Mixed-up Files of Mrs. Basil E. Frankweiler*, a novel by E.L. Konigsburg in which two children hide in the Metropolitan Museum of Art and eat most of their meals at the Automat. We couldn't wrap our brains around this seemingly bizarre dining-out concept. You get your food from behind a little door? How does it get there? But then, your column "Meet Me at the Automat" by Carolyn Hughes Crowley explained everything, with photographs to boot.

Abigail M. Obenchain
Sault Ste. Marie, Ontario

YOUR COLUMN BROUGHT BACK SO many memories of the World War II years when there was rationing and shortages. Many of us were truly blessed by Horn & Hardart. A group of us had been having a series of eye operations and were nearly penniless. When we were ambulatory, we could ask for a bowl of hot water at the Automat (no questions asked), go sit at a table, grab a ketchup bottle, pour it into the water, break up a packet of saltines that were always available and have a meal. Many destitute people did this.

Horn & Hardart hired disabled people, placing them in suitable positions and thereby making them feel useful and giving them a sense of self-worth. Horn & Hardart was truly America at its best.

Anne M. Fitzsimmons
Colorado Springs, Colorado

EDWARD HOPPER DID A PAINTING IN 1927 called *Automat*, now in the collection of the Des Moines Art Center, that shows an introspective woman, seated alone, drinking coffee, surrounded by empty tables.

The Automat's coffee was good, but the pumpkin pie was terrific, well worth the five nickels.

Barney Hodes
Cold Spring, New York

AS A HIGH SCHOOL STUDENT IN THE 1940s, I worked part-time in a dairy laboratory. I traveled by trolley to each of the Horn & Hardarts in the Philadelphia area, recording the temperature of dispensed milk through the dolphin heads, and taking samples of the milk back to the lab in a metal suitcase filled with ice. Once in a while an H&H manager gave me a slice of their delicious cherry pie.

Roy W. Roth
Chapel Hill, North Carolina

A GREAT WAY TO GET A LOOK AT AN Automat in operation is to watch the 1962 comedy film *That Touch of Mink*, starring Cary Grant and Doris Day. Supporting actress Audrey Meadows (below) restocks food in an Automat,

and in several scenes, she and her friend Day discuss their lives through the open cubbyholes. At one point, we see Meadows' hand reach through from the kitchen and slap Gig Young when he opens one of the little doors.

Vance Garnett
Washington, D.C.

IN 1942 I WORKED AS A BUSBOY AFTER school and then full-time at an unusual 5th Avenue Automat that served beer, oysters on the half shell and fresh oyster stew.

E.E. Schneider
Richmond, Virginia

YOUR ARTICLE IMPLIED THAT HOT food at Horn & Hardart was served only at buffet-style steam tables. Not so. Some of my favorites that I purchased through the small glass doors were macaroni and cheese, frankfurter and beans, and chicken potpie. I paid as much as 35 cents for the potpie.

Edward Lange
Mount Vernon, Washington

I THINK THAT THE MOST INGENIOUS and certainly most humorous paean to the Automat was P.D.Q. Bach's "Concerto for Horn & Hardart." Prof. Peter Schickele's liner notes to the recording state: "The Hardart is one of the strangest instruments of the 20th century and has a range of over two chromatic octaves. . . . Windows in the center contain the different mallets required to play the percussion devices as well as sandwiches and pieces of pie which are particularly welcome during long concerts."

Andrew L. Wilson
Richmond, Virginia

THE LAST PAGE

"VERBAL SHORTHAND" REMINDED ME of Oliver Wendell Holmes' *The Autocrat of the Breakfast Table*: "Talking is like playing on the harp; there is as much in laying the hand on the strings to stop their vibrations as in twanging them to bring out their music."

William Dauenhauer
Wickliffe, Ohio

WRITE TO SMITHSONIAN

Letters for consideration in this column should include your daytime telephone number, full name and postal address. Letters may be edited for clarity and length. Please send correspondence to Letters Editor, Smithsonian magazine, MRC 951, Washington, D.C. 20560-0951 or to LettersEd@simag.si.edu.

Send queries and comments about the Smithsonian Institution to info@info.si.edu or to VIARC, Public Inquiry Mail Service, Washington, D.C. 20560-0010.

PHOTOFEST

ALL I WANT ARE NIGHTS WITH LESS PAIN AND MORNINGS WITH LESS STIFFNESS.

VIOXX IS HERE. 24-HOUR RELIEF FOR THE MOST COMMON TYPE OF ARTHRITIS PAIN, OSTEOARTHRITIS.

It isn't about winning a marathon. Or making you feel like a kid again. It's about controlling the pain that keeps you from doing everyday things. And VIOXX may help. VIOXX is a prescription medicine for osteoarthritis, the most common type of arthritis.

ONE PILL—ALL DAY AND ALL NIGHT RELIEF.

You take VIOXX only once a day. Just one little pill can relieve your pain all day and all night for a full 24 hours.

VIOXX EFFECTIVELY REDUCED PAIN AND STIFFNESS.

In clinical studies, once-daily VIOXX effectively reduced pain and stiffness. So VIOXX can help make it easier for you to do the things you want to do. Like getting out for an early morning walk with a friend.

TAKE WITH OR WITHOUT FOOD.

VIOXX doesn't need to be taken with food. So, you don't have to worry about scheduling VIOXX around meals.

IMPORTANT INFORMATION ABOUT VIOXX.

In rare cases, serious stomach problems, such as bleeding, can occur without warning. People with allergic reactions, such as asthma, to aspirin or other arthritis medicines should not take VIOXX.

Tell your doctor if you have liver or kidney problems, or are pregnant. Also, VIOXX should not be used by women in late pregnancy.

VIOXX has been extensively studied in large clinical trials. Commonly reported side effects included upper respiratory infection, diarrhea, nausea and high blood pressure. Report any unusual symptoms to your doctor.

ASK YOUR DOCTOR OR HEALTHCARE PROFESSIONAL ABOUT VIOXX.

Call 1-877-7MERCK7 for more information, or visit vioxx.com. Please see important additional information on the next page.

ONCE DAILY

VIOXX®

(rofecoxib)

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Patient Information about
VIOXX® (rofecoxib tablets and oral suspension)
VIOXX® (pronounced "VI-ox")
for Osteoarthritis and Pain
Generic name: rofecoxib ("ro-fa-COX-ib")

You should read this information before you start taking VIOXX®. Also, read the leaflet each time you refill your prescription, in case any information has changed. This leaflet provides only a summary of certain information about VIOXX. Your doctor or pharmacist can give you an additional leaflet that is written for health professionals that contains more complete information. This leaflet does not take the place of careful discussions with your doctor. You and your doctor should discuss VIOXX when you start taking your medicine and at regular checkups.

What is VIOXX?

VIOXX is a nonsteroidal anti-inflammatory drug (NSAID) that is used to reduce pain and inflammation (swelling and soreness). VIOXX is available as a tablet or a liquid that you take by mouth.

VIOXX is a medicine for:
- relief of osteoarthritis (the arthritis caused by age-related "wear and tear" on bones and joints)
- management of acute pain in adults (like the short-term pain you can get after a dental or surgical operation)
- treatment of menstrual pain (pain during women's monthly periods).

Who should not take VIOXX?

Do not take VIOXX if you:
- have had an allergic reaction such as asthma attacks, hives, or swelling of the throat and face to aspirin or other NSAIDs (for example, ibuprofen and naproxen).
- have had an allergic reaction to rofecoxib, which is the active ingredient of VIOXX, or to any of its inactive ingredients. (See Inactive Ingredients at the end of this leaflet.)

What should I tell my doctor before and during treatment with VIOXX?

Tell your doctor if you are:
- pregnant or plan to become pregnant. VIOXX should not be used in late pregnancy because it may harm the fetus.
- breast-feeding or plan to breast-feed. It is not known whether VIOXX is passed through to human breast milk and what its effects could be on a nursing child.

Tell your doctor if you have:
- kidney disease
- liver disease
- heart failure
- high blood pressure
- had an allergic reaction to aspirin or other NSAIDs
- had a serious stomach problem in the past.

Tell your doctor about:
- any other medical problems or allergies you have now or have had.
- all medicines that you are taking or plan to take, even those you can get without a prescription.

Tell your doctor if you develop:
- ulcer or bleeding symptoms (for instance, stomach burning or black stools, which are signs of possible stomach bleeding).
- unexplained weight gain or swelling of the feet and/or legs.
- skin rash or allergic reactions. If you have a severe allergic reaction, get medical help right away.

How should I take VIOXX?

VIOXX should be taken once a day. Your doctor will decide what dose of VIOXX you should take and how long you should take it. You may take VIOXX with or without food.

Can I take VIOXX with other medicines?

Tell your doctor about all of the other medicines you are taking or plan to take while you are on VIOXX, even other medicines that you can get without a prescription. Your doctor may want to check that your medicines are working properly together if you are taking other medicines such as:
- methotrexate (a medicine used to suppress the immune system)
- warfarin (a blood thinner)
- rifampin (an antibiotic)
- ACE inhibitors (medicines used for high blood pressure and heart failure)
- lithium (a medicine used to treat a certain type of depression).

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What are the possible side effects of VIOXX?

Serious but rare side effects that have been reported in patients taking VIOXX and/or related medicines have included:

- Serious stomach problems, such as stomach and intestinal bleeding, can occur with or without warning symptoms. These problems, if severe, could lead to hospitalization or death. Although this happens rarely, you should watch for signs that you may have this serious side effect and tell your doctor right away.
- Serious allergic reactions including swelling of the face, lips, tongue, and/or throat which may cause difficulty breathing or swallowing occur rarely but may require treatment right away. Severe skin reactions have also been reported.
- Serious kidney problems occur rarely, including acute kidney failure and worsening of chronic kidney failure.
- Severe liver problems, including hepatitis and jaundice, occur rarely in patients taking NSAIDs, including VIOXX. Tell your doctor if you develop symptoms of liver problems. These include nausea, tiredness, itching, tenderness in the right upper abdomen, and flu-like symptoms.

In addition, the following side effects have been reported: anxiety, confusion, hair loss, hallucinations, increased levels of potassium in the blood, low blood cell counts, tingling sensation, unusual headache with stiff neck (aseptic meningitis).

More common, but less serious side effects reported with VIOXX have included the following:

Upper and/or lower respiratory infection and/or inflammation
Headache
Dizziness
Diarrhea
Nausea and/or vomiting
Heartburn, stomach pain and upset
Swelling of the legs and/or feet
High blood pressure
Back pain
Tiredness
Urinary tract infection.

These side effects were reported in at least 2% of osteoarthritis patients receiving daily doses of VIOXX 12.5 mg to 25 mg in clinical studies.

The side effects described above do not include all of the side effects reported with VIOXX. Do not rely on this leaflet alone for information about side effects. Your doctor or pharmacist can discuss with you a more complete list of side effects. Any time you have a medical problem you think may be related to VIOXX, talk to your doctor.

What else can I do to help manage my osteoarthritis pain?

Talk to your doctor about:
- Exercise
- Controlling your weight
- Hot and cold treatments
- Using support devices.

What else should I know about VIOXX?

This leaflet provides a summary of certain information about VIOXX. If you have any questions or concerns about VIOXX, osteoarthritis or pain, talk to your health professional. Your pharmacist can give you an additional leaflet that is written for health professionals.

Do not share VIOXX with anyone else; it was prescribed only for you. It should be taken only for the condition for which it was prescribed.

Keep VIOXX and all medicines out of the reach of children.

Inactive Ingredients:

Oral suspension: citric acid (monohydrate), sodium citrate (dihydrate), sorbitol solution, strawberry flavor, xanthan gum, sodium methylparaben, sodium propylparaben.

Tablets: croscarmellose sodium, hydroxypropyl cellulose, lactose, magnesium stearate, microcrystalline cellulose, and yellow ferric oxide.

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POINTS OF INTEREST

Tarnished Luster

MINING TOWNS IN IDAHO'S BELEAGUERED SILVER VALLEY BLAME THE EPA FOR RUINING THEIR REPUTATION

BY STEVE KEMPER

The lead is still flying in Kellogg (where many downtown stores are abandoned) over longtime efforts to clean up land contaminated for decades by mining companies.

ALL: JASON MILLSTEIN

TOWNS DIE LIKE PEOPLE, WITH anger and dread, alarm and courage, and right up to the very end, with hope. This thought occurs to me as I make my way through the rugged precincts of Silver Valley in Idaho's picturesque Panhandle, where mining communities have been withering away for decades. Also known as the Coeur d'Alene, this district once yielded prodigious amounts of lead, zinc and silver. But as mining's fortunes waned, so did the valley's.

One of the latest casualties is the Sunshine Mine in Big Creek, which closed earlier this year. It was among the country's top silver producers, employing nearly 200 people and turning out 150 tons of the precious metal each year. Only three other mines remain here, and two of those are wobbly. Unemployment is nearly three times the state average. The biggest town, Kellogg (pop. 2,395), has lost nearly a third of its people in the past 20 years.

What's killing Silver Valley? I hear the same causes cited again and again. The market for metals has been flat for years. Government regulations keep getting stricter. And now there's a multibillion dollar lawsuit against the mining companies over contaminants carried down the South Fork of the Coeur d'Alene River.

Of course, mining in the West has always been a boom-or-bust proposition. The question today is whether the current bust in Idaho is just the latest chapter in a continuing saga or the end of the story.

Freelance writer David Bond moved to Silver Valley in 1979. "When I first arrived," he tells me over beer and oysters at Kellogg's Broken Wheel restaurant, "if you met someone, pretty soon you knew their parents and their grandparents. People stayed here." Most boys followed their fathers into the mines straight from high school. Then, in 1982, the valley's biggest and best-known operation, Kellogg's Bunker Hill Mine, closed and threw more than 2,000 people out of work. Things have been going downhill ever since.

A miner for 35 years, Jim Mortenson is putting in his last few days at the Sunshine Mine, where in a good year he could make up to $80,000. "I got a ranch and I don't want to sell it," he says, so he plans to follow others from the valley to a platinum mine in Nye, Montana, 450 miles away, where he'll work a seven-day shift and then commute home for seven days off.

Chuck Peterson also worked in the mines most of his life. Now he owns a ramshackle building in the town of Wardner that houses Chuck's Memorabilia Museum. It contains an eccentric collection of photographs, signs, tools, old ledgers and other mining artifacts. "My parents had ten kids, and all of us worked in the mines," says Peterson. "We all had kids and they all had kids, and none of us are leaded and deaded." He grins. "So it's not as black as it has been painted."

Not today, perhaps. But for 65 years the Bunker Hill smelter disgorged tons of sulfur dioxide, shrouding Kellogg in a noxious, foul-smelling cloud. Nothing grew on the

mountainsides. In the mid-1970s, epidemiologists found dangerously high levels of lead in nearly 200 children living close to the smelter. It turned out that Kellogg's school buildings were contaminated as well.

A decade later, the Environmental Protection Agency (EPA) declared a 21-square-mile area around the smelter a Superfund site and prescribed measures to make it safe. The topsoil from lawns, parks and playgrounds was replaced, and the smelter chimneys, the valley's most prominent symbol of mining, were demolished.

Now the mountainsides are green again, and the schools are uncontaminated. "We certainly do not have any kind of a public-health emergency here," says Jerry Cobb, a supervisor of the state's Panhandle Health District in Kellogg. Be that as it may, EPA officials will propose a cleanup plan this month that could affect everything in a 150-mile stretch along the Coeur d'Alene River. A full cleanup could cost more than a billion dollars and take 30 years to complete.

People in Kellogg and neighboring towns are angry. They blame the agency for ruining their reputation. "We're portrayed as not caring or too dumb to care," says Jon Cantamessa, a county commissioner. Robin Stanley, the superintendent of schools in Mullan, tells me about a volleyball team that recently came to play in Mullan. When one of the players turned on a water fountain, a teammate shouted, "Don't drink the water!" This stunned the Mullan kids. "As long as the gloom of the EPA hangs over us," Stanley says, "the valley will continue to decline until no one's left to turn out the lights."

Dale Brown, a Kellogg real estate agent who heads the local development corporation, says the Superfund stigma has made it almost impossible to recruit new businesses. Nevertheless, he remains optimistic. "To me, the future isn't mining or timbering," he tells me, sitting in his office. "It's tourism." He may be right. The company that opened a ski gondola outside of town a decade ago recently announced new plans to build a golf course and 1,000 condominiums. Retirees already have begun to discover the valley's cheap real estate and piney mountains.

Dee McMackin oversees the four miners (including Tom Gillespie) that now work the Bunker Hill Mine, which started producing lead, silver and zinc in 1885.

But Bob Hopper is still betting on mining. In 1992 he bought the Bunker Hill and put it back into limited production. An outspoken man with muttonchop sideburns and a gravelly voice, Hopper is passionate about the heritage of Western mining. It irritates him that the public demands cars, appliances and millions of other metal products, yet looks down on miners and mining. "If it can't be grown," reads a poster in his office, "it's gotta be mined."

When we take a railcar tour of the Bunker Hill Mine, the light on Hopper's hard hat barely penetrates the darkness ahead. The mine is a gigantic hive, with 8 levels above us and 21 below. Vertical shafts connect more than 150 miles of horizontal tunnels, also known as drifts. "To return a mine like this to full production," Hopper says, "requires track repair, which requires timbering, which requires bringing in compressed air, which requires electricity, which requires building a substation."

Dee McMackin, emerging from the Bunker Hill at the end of his shift, is tired and dirty. Tall and powerful looking, with a shy smile, he has been working underground for 43 of his 62 years. He's the foreman of the skeleton crew that now operates the Bunker Hill.

McMackin tried college for a year but returned to the mines. "It just gnaws at you, just gets in your blood," he says.

"Why?" I ask. To me, the work seems dirty, dangerous and scary. McMackin looks away, thinking. "You go in and you look at solid rock," he says. "You drill a pattern for blasting, and when you come back after the blast, there's a big pile. And after you clear it, you're standing where no man has stood before."

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PHENOMENA & CURIOSITIES

Getting Their Goats

COMMUNITIES WORRIED ABOUT THE RAVAGES OF WILDFIRES ARE EMBRACING A FOUR-LEGGED SOLUTION

BY EDWIN KIESTER, JR.

THE NEW KIDS ON THE BLOCK were at dinner, several hundred of them, chomping, chomping, punctuated by an occasional bleat. The arid hillside in our suburban neighborhood park had been suddenly populated by goats, shaggy white Angoras, deep-chested beige Spaniards, New Zealand Kikos, all methodically munching their way across the rapidly browning landscape. In the process, they were protecting me and my neighbors from that California dry-season nightmare, the blazing, fast-spreading wildland fire.

About 6,000 wildland fires sweep California annually; in the awful 1999 fire season—roughly from April to November—fires consumed 273,000 acres, destroyed 300 homes and other buildings, and caused $500 million worth of damage. The number of fires has quadrupled in 30 years, as population growth relentlessly pushes human habitation ever deeper into fire-vulnerable areas.

When the rains stop in April, vegetation turns crisp and brown; the tiniest spark can set off a major conflagration. Yet there are few weapons against the threat. A prescribed burn, deliberately set to burn the hazardous dry fuel, can too easily get out of hand, as happened at Los Alamos in 2000. "You can't use chemicals," because they leach into the water supply and the areas in danger are far too large, says Mike Phillips, who works in fire prevention for Laguna Beach, where a 1993 fire destroyed more than 400 houses. Fire-prone terrain is often too rugged for mechanized equipment; ferrying in crews by helicopter is far

After one major fire, recalls Carol Rice of Wildland Resource Management, "people lamented, 'If we'd only cleared our weeds with something like goats.'"

ALL: JIM LEACHMAN

IT'S BACK!
THE $68 DOWN JACKET THAT TURNS WINTER INSIDE OUT.

Remember last winter? The coldest November and December in 106 years. Ice in Orlando. Snow in New Orleans. And up north - well, who wants to relive the frigid details?

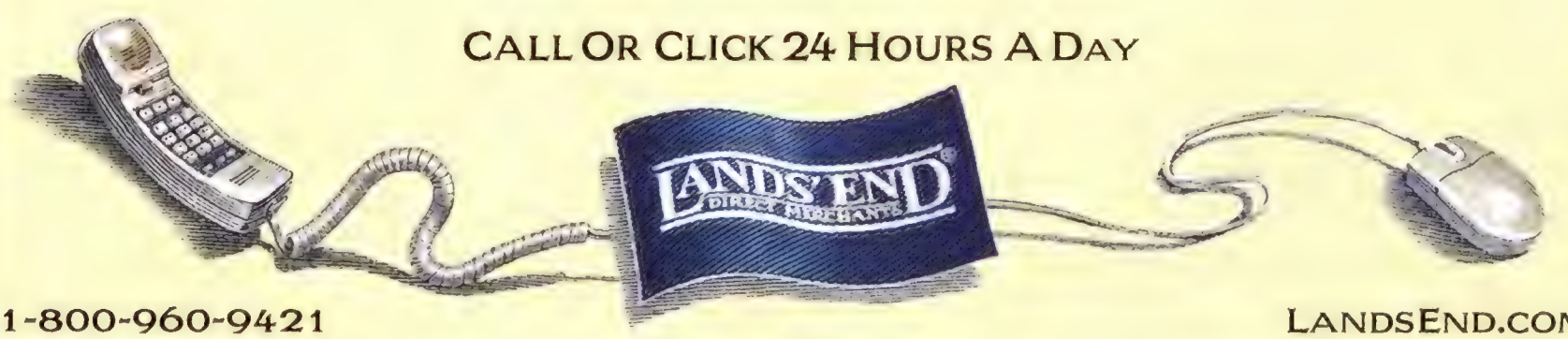
Then along came our Reversible Down Jacket to warm things up. Jam-packed with lofty 650 fill power goose down - the warmest insulation on earth. (Ever see a goose shiver?) Fully reversible from a sporty quilted side to a smooth around-town side, so it's almost like having two coats. And only $68. No wonder it stormed out of our warehouse!

Now it's back in seven new colors, at the same low price. Do you really want to go through another long ornery winter without it?

We've got a Reversible Goose Down Jacket for kids too. And if goose down isn't your cup of cocoa, you can choose from over fifty other styles at Lands' End® Outerwear Headquarters,™ from leather to loden to our legendary Squalls.®

So don't get left out in the cold. Call or click for our Reversible Goose Down Jacket today. No hassles, no headaches, and definitely no shivers. It's the way shopping should be.

CALL OR CLICK 24 HOURS A DAY



1-800-960-9421

LANDSEND.COM

Goats (in the Oakland Hills) are smart. "You feed them at a certain time," says Brea McGrew, "and they'll be back at the same time the next night, ready for dinner."

too expensive. "Anyway," says Walt Fujii, former supervisor of parks and trees for Menlo Park, "bring in a hand crew for a day and they're out two weeks with poison oak. And when they cut the stuff down, what do you do with it?"

Send in the goats.

Just who first drafted the genus *Capra* for environmentally friendly fire safety duty is not clear. But certainly among the pioneers were Brea McGrew, a veterinarian, and her husband, Bob, a fireman, whose four-footed weed eaters have been at it since 1991. During the six-month fire season, the McGrews' hardworking goats can be found lunching in the hills above Oakland and Berkeley, in the coastal slopes behind Monterey and in back of the beachfront mansions in Malibu. Brea McGrew won't even estimate the number of goats in their herd but acknowledges it's in the thousands.

Earlier in the spring, after the winter rains subsided, I drove up to Dixon, a town near Sacramento, to see the goats prepare for their summer job.

"Goats are good for this sort of fuel management because they are primarily browsers," said Brea, explaining that brush, once ignited, acts like a ladder carrying the fire to the treetops. "Goats would rather eat brush than grass," she added. "They like their food right at eye level. At home, the goats ignore the wonderful green grass and look longingly at the scruffy taller stuff beyond the fence."

After the disastrous Oakland Hills fire destroyed more than 2,400 houses in 1991, local governments with vulnerable open space began to seek ways to prevent a recurrence. Fires in the area have been better contained in places where goats have browsed.

Five years ago Walt Fujii began bringing in the McGrews' goats for two weeks at $15,000 per stint to reduce the fire hazard. Not only has the brush been kept under control, but there's been an added benefit. "You wouldn't believe what we took out of there the first year," says Fujii. "One and a half truckloads of junk, bottles, cans, paper—you name it. It was like the snow country after the snow melts. The goats really opened it up."

Now, each April, when the rain stops and temperatures rise, a small caravan sets out from Dixon. Bob McGrew pilots the livestock trailer-truck carrying 450 yearlings and a half dozen mothers with kids. Next comes a small house trailer, to serve as the on-site home for the two goatherds, brothers from the Peruvian uplands, Jose and Ricardo Surichaqui. With them ride two Great Pyrenees guard dogs and two Border collie herding dogs. Brea's pickup follows, carrying water troughs, electric fencing to confine the animals, and food for the men.

With staff from Menlo Park, the McGrews tramp through the terrain, fencing small trees and sensitive native plants to protect them from ravenous appetites. Then the hungry weed eaters themselves arrive. The Surichaqui brothers lead them into a fenced-off area of yellowing wild oats. The goats begin work immediately. Three hundred and fifty of them can denude an acre a day, consuming low branches and foliage, stripping bark from French and Scotch broom and other shrubs, eating grass down to putting-green height. After such a meal, they are moved to another acre.

Brea McGrew stepped back and watched them admiringly. "You know, goats are very intelligent," she said. "They're trainable, like dogs. And they work together. They think. One will get up on her hind legs and pull a branch down for the others, and they'll all browse together."

Throughout California, goats were dining out. Above the championship golf course at Pebble Beach, a herd was systematically carving a 35-acre firebreak. In the East Bay parks, goats were eating their way across 400 acres of buffer area. "What I like about goats," Ed Leong, a park supervisor in the East Bay Regional Park District, told me, "is they do their work so quietly. People who come to our parks don't like the noise of brush-clearing machinery."

Laguna's Mike Phillips said that just three things contribute to wildland fires. "Fuel loads, topography and weather." He paused, then smiled. "We can't change the topography, and we can't do anything about the weather. The only variable to reduce is the fuel load. That's what goats do for us."

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Hi-Yo, Silver! Away!

THE STORY OF HOW THE SMITHSONIAN CAME BY ITS MASK RIVALS IN INTEREST THE WAY THE LONE RANGER GOT HIS

BY DAVID H. SHAYT

The precious metal for the Lone Ranger's signature silver bullets came from the character's family mine. But the former Texas Ranger never used them to kill anyone.

VISITORS TO THE NATIONAL Museum of American History's "Popular Culture" exhibition may imagine hearing ghostly strains of the *William Tell* Overture as they look at a black felt mask labeled: "This mask was worn by Clayton Moore during his television career as the Lone Ranger between 1949 and 1957. . . ." Adults of a certain age and late-night TV viewers everywhere know the rest. How the ultimate masked man brought peace and goodwill to the Old Wild West. How he and Tonto rode up on their fiery horses to bring varmints to justice, and then disappeared as that most perfect of Rossini overtures swelled and faded.

At the Smithsonian, the mask's story began with a letter from Dawn Moore, daughter of the late Clayton Moore, television's best-known Lone Ranger, to the Institution. Before his death in 1999 at the age of 85, Moore had instructed Dawn to donate one of his three original masks to the museum upon his passing. Who would say no?

How this mask attained treasure status in the first place is a tale of another sort. In the early 1930s, George Washington Trendle, the enterprising co-owner of Detroit radio station WXYZ, conceived of a masked hero blending aspects of film hero Zorro, Robin Hood and the Texas Rangers.

Fran Striker, Trendle's crack scriptwriter, developed a story set in the 1880s. The tale evolved as the show developed and jumped media, but the most familiar goes like this. A Texas Ranger unit on patrol is ambushed by the notorious Butch Cavendish gang. The lone survivor, John Reid, is nursed back to health by a passing Indian (who, remarkably enough, had known Reid as a child). To hide his identity while he pursues Cavendish, Reid dons a mask cut from his dead brother's vest. Thus concealed, he sets out to bring the gang to justice, and after them, a host of other rogues and desperadoes who prey on honest, simple folk. After a roundup, the selfless, anonymous Lone Ranger leaves behind a single silver bullet, a reminder of his steadfast vigilance against evil. "Who was that masked man?" some bystander would ask.

From 1933 to 1954, the voices of several Lone Rangers, most notably the deep, steady cadences of Brace Beemer, chased bad guys across the radio dial three nights each week. Republic Pictures began producing

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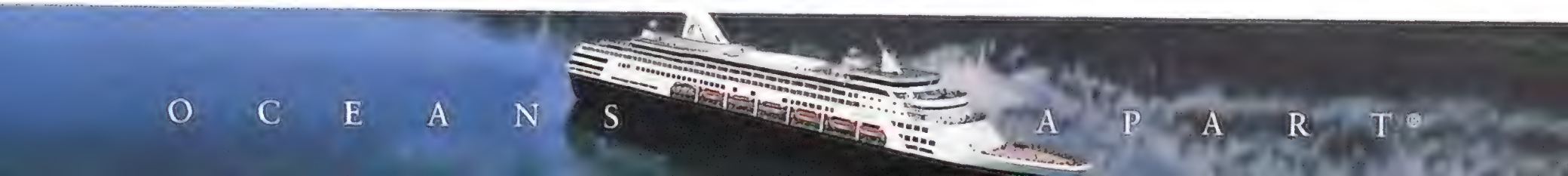

Friends offscreen as well as partners on, Clayton Moore, on Silver (left), and Jay Silverheels, on Scout, shared the lead in more than 160 episodes of *The Lone Ranger*.

Lone Ranger serials, short films in episode format, in 1937.

The leap to television in 1949 was altogether natural for a radio and film success story. The Lone Ranger's dedicated fan base followed him to the new medium to "return . . . to those thrilling days of yesteryear" all over again. Once more, a narrator intoned those spine-tingling words, "A fiery horse with a speed of light, a cloud of dust, and a hearty 'Hi-Yo, Silver!' . . . The Lone Ranger!"

The new program needed a new Lone Ranger to suit the new medium. Trendle found his man in Clayton Moore, born Jack Carlton Moore 35 years earlier on Chicago's south side. Moore had worked as a trapeze artist at Chicago's 1933-34 World's Fair and later as an actor in a number of movies, including quite a few westerns. He was a fit specimen, but above all, Moore knew horses, and he knew Hollywood.

The televised series also needed a new Tonto. The radio versions of Tonto had featured actors who were decidedly non-Indian, and both the radio and film roles had been cast as a wise elder. Striker, still the chief scriptwriter, argued for an authentic, youthful Native American.

One who fit the bill was Harold J. Smith, then 30, who had appeared in small roles in *Singing Spurs*, *Yellow Sky* and, most notably, *Key Largo*. Smith was a full-blooded Mohawk from the Six Nations Reservation near Brantford, Ontario. An accomplished boxer and lacrosse player, he had picked up the moniker Silverheels Smith in Canada and later changed his name to Jay Silverheels.

As TV's Tonto, Silverheels dropped the eagle feather from behind his head but retained the leather headband that, with his buckskin shirt, came to define his costume. What defined his role was a strength and self-reliance that shone through the stilted, broken English of Tonto's lines.

Moore and Silverheels were inseparable during the show's eight-year televised run, except during the 1952-1953 season, when Silverheels rode with John Hart while Moore and the network hammered out differences (the details of which remain unclear).

The first televised episode of *The Lone Ranger* aired on ABC on September 15, 1949. Although set in the Southwest, much of the show was shot at Iverson's Ranch, in Chatsworth, California, about 15 miles northwest of Los Angeles. Indoor scenes typically used the old Hal Roach Studios in Culver City.

At one point early on, the Lone Ranger's mask covered most of Moore's face. Gradually, it shrank to cover only his eyes, and metamorphosed from loose cloth to felt-covered fitted fiberglass that gave Moore better vision. For close-ups, cameramen used a special magenta light, called a hinky dink, to highlight the actor's eyes that were otherwise hidden in the depths of his mask.

By the time the final episode aired June 6, 1957, *The Lone Ranger*, one of the first westerns to gallop across the nation's airways, was competing with *Maverick*, *Cheyenne* and *Gunsmoke*, with many more to follow.

After founding a school for Native American actors a few years after the show's demise, Jay Silverheels died in 1980 at the Motion Picture and Television Home in Woodland Hills, California. He was 60.

Clayton Moore had continued on as the Lone Ranger, starring in two films and making personal appearances in costume, often on horseback. Still in character, he hawked everything from rental cars to pizza in self-mocking TV commercials.

When the Wrather Corporation, which purchased the rights to the show in 1954, decided to make *The Legend of the Lone Ranger*, a 1981 feature starring Klinton Spilsbury, it stripped Moore of his right to wear the mask, a right reinstated only after the movie flopped at the box office. In the meantime, Moore had waged a public opinion campaign, generating renewed interest in the actor, the Lone Ranger and the mask.

Now, the Lone Ranger's black mask has found its way to the Smithsonian, a quiet reminder that cultural history matters, be it the mythical Old West, the pioneering radio shows that re-created it, or the television programs that reinterpreted that myth for a generation or two . . . or more. Hi-Yo Silver, Away!

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BREATHING FIRE

On July 17, 2001, Sicily's Mount Etna blew. Again. During the largest eruption in nearly a decade, Europe's highest (11,000 feet) and most active volcano spewed some 65 million cubic yards of lava and ash. At dawn August 1, as photographer Art Wolfe reached the summit to shoot the flank eruptions below, he heard a sound "like a jet engine roaring out of the earth" as he caught the sun's illumination of the plume. Surprisingly, the eruption was over by August 10. But for how long? Ah, that's the question. Mount Etna's record reveals an unpredictable pattern, so the grand show could begin again at any time.

AROUND THE MALL

Head's Up

FROM A COMPUTER-GENERATED MODEL, SCULPTORS CAST A BRONZE TRICERATOPS THAT LOOKS LIKE THE REAL THING

BY MICHAEL KERNAN

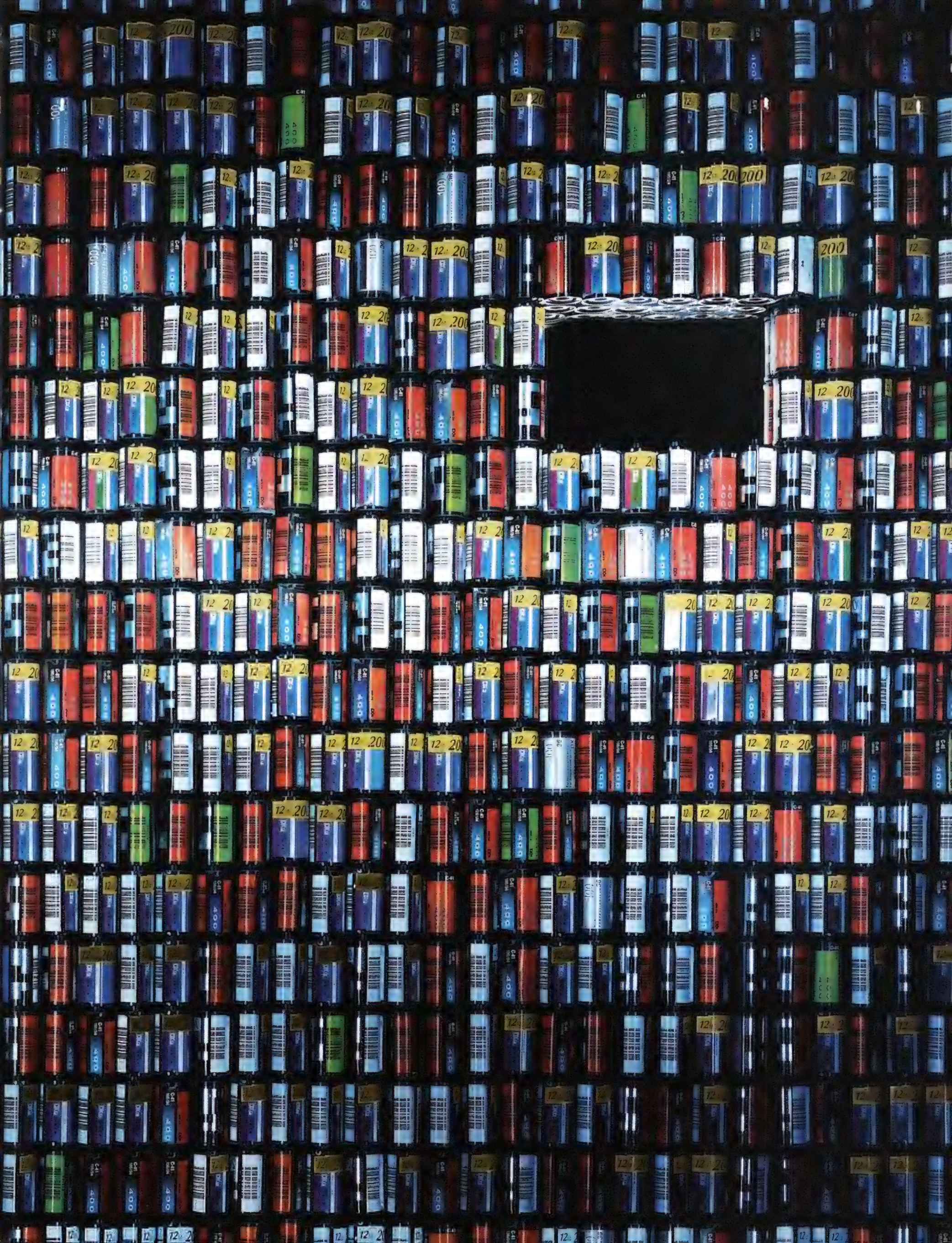
EVERY TIME I SEE THE GREAT triceratops skull looming out of foliage in front of the National Museum of Natural History in Washington, D.C., I think about all that went into it. The idea for a bronze of the enormous skull was born when the museum began refurbishing its dinosaur exhibit in 1998 and curators decided that an outdoor sculpture would serve as a terrific logo, not just for the exhibit but for the museum itself.

The exhibit's prized triceratops—a gigantic plant-eating dinosaur with three horns and a huge, saddle-shaped skull—had been discovered in Wyoming in 1891, hauled out by horse-drawn wagon and shipped East on the new transcontinental railroad. Since the skeleton wasn't complete, bones from 14 other triceratops were used to create the world's first mounted triceratops. It went on display at the Smithsonian in 1905. As the years passed, some bones developed cracks or showed signs of pyrite disease, a buildup of minerals that causes internal fissures. (Of course, at 65 million years of age, a body is entitled to a touch of arthritis.)

Equipped with the latest technology, experts set out two years ago to create a more perfect triceratops. The 1905 body was too large for its head, so scientists used a computer to produce a new skull 15 percent larger than the original. Using three-dimensional laser-scanning techniques unknown even five years ago, conservators also created an anatomically correct skeleton made of resin, plaster and fiberglass. The left shoulder blade, for instance, which had originally been sculpted by guesswork, was replaced with a mirror image of the right blade. The finished dinosaur, some 20 feet long and 8 feet tall, is what you see in the newly renovated Dinosaur Hall at Natural History. (A computer image can be viewed online at http://160.111.16.40/.) Triceratops' original skull and a few other carefully preserved bones are also on display alongside the replica. Diceratops, the skeleton of a baby styra-

The new bronze skull is five feet high, seven feet long and weighs a ton; thanks to artists' deft hands, it has the weathered surface of the museum's original.

ALL: REGIS LEFEBURE



cosaurus, centrosaurus and various dinosaur relatives are there too.

But getting back to that big bronze head outside the museum, which was cast from the same computer-generated model as the skeleton inside: to make it, the Smithsonian chose sculptors at Millersville University, near Lancaster, Pennsylvania, and sent them a rubber mold of the new skull, sectioned into eight pieces for transport. The sculptors reassembled the pieces, which averaged eight by six feet, and poured several layers of molten wax into the mold. Making a hollow wax head is complicated. Because the wax version of triceratops was produced from a laser-generated model, it lacked the exact markings of the original fossil. Artists spent more than a thousand hours sculpting in the details. "We used photographs and visited the museum to see the fossil firsthand," says George Mummert, one of the three sculptors in residence at Millersville.

The finished wax head was only a quarter-inch thick but weighed 200 pounds and was too fragile to hold its shape without support. So the Millersville artists built a cradle of plywood and plaster reinforced with wire and burlap to hold the head. Then they cut it up again. "The thing was so big we had to break it into 30 to 35 pieces," Mummert adds.

One by one, the enormous platter-shaped chunks of the wax head were fitted with sprues, wax conduits for molten bronze. Then the pieces were dipped into a vat of ceramic slurry—a suspension of silica flour and liquefied plastic. Over several days, the artists, wearing respirators and protective clothing, dusted the pieces with zircon and silica sand after each bath to thicken the ceramic shell.

After drying thoroughly, the unshapely sections went in a kiln, heated to 1,500 degrees Fahrenheit. The wax melted out as the ceramic was fired into rock-hard receptacles able to withstand molten metal.

Using tools similar to a dental technician's, Sean Bradley sculpts the wax model.

To pour the bronze, three artists donned heavy silvery fireproof suits: gaiters, aprons, coats, gloves and welder's masks. After lowering the crucible into the furnace, one sculptor loaded it with several 25-pound bronze ingots. Someone lit the furnace, creating a deafening roar. Melting the bronze took almost an hour. A sculptor dipped a pyrometer, a long metal thermometer, into the liquid bronze to determine if it was hot enough—2,150 degrees F—to pour.

With huge iron tongs attached to a chain hoist, a sculptor lifted the glowing red-hot crucible from the furnace and carefully set it into a steel frame. Working quickly but methodically, two other artists poured a stream of liquid bronze into a ceramic mold. Hot metal rushed through the sprueing system, filling each hollow casing.

After a mold had cooled for several hours, the crew used hammers and chisels to crack the ceramic shell, revealing the bronze casting, still festooned with sprues. Carefully applying saws and grinders, the sculptors removed the extraneous parts; what remained was a bronze copy of a single chunk of the triceratops skull.

"Oh, but we're hardly started," says Mummert at this point in the operation. "Next we have to assemble all the pieces and weld them together. Then we spend I don't know how many more hours chasing all the welds." He was referring to the process of removing every mark or bump that doesn't belong with die grinders, files, chisels and, in the end, sandpaper. Weeks later, when these chores were done and the entire head finally assembled, the artists sandblasted it clean, applied a patina with torches, sealed it with waxes and brought it to Washington.

So when you see the new triceratops bronze at Natural History, you might think about the thousands of hours of labor it took to make it. In any case, I'm sure you'll agree that it's a head of its time.

Visit the Smithsonian

To receive a free Associates' planning packet, write to Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560-0010, or send your request via e-mail to: info@info.si.edu, or call 202-357-2700 (voice) or 202-357-1729 (TTY), 9 A.M.-5 P.M., Monday-Friday, 10 A.M.-4 P.M., Saturday-Sunday, or visit www.si.edu. Museums are generally open 10 A.M.-5:30 P.M. daily, except December 25. Parking is limited; Metrorail is convenient to most museums.

THE CASTLE—INFORMATION CENTER

Upon arrival make your first stop the Castle's Smithsonian Information Center. At the Associates' Reception Desk, open 9 A.M.-4 P.M. daily, learn what's new at the Smithsonian and about other area attractions. Receive brochures, hear about your discount privileges and register for a Sunday morning behind-the-scenes members' tour of the Castle.

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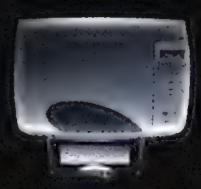

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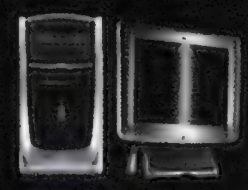

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Trust and Intimacy

NOT LONG OUT OF COLLEGE IN THE 1930s and well before she became an acclaimed short story writer and Pulitzer Prize winner, Eudora Welty, who died on July 23 at age 92, worked as a publicity agent for the Works Progress Administration. Her duties included visiting remote corners of her native Mississippi distributing books to eager hands, putting up booths in county fairs and interviewing local dignitaries. Before long the eldest child of a Jackson, Mississippi, insurance executive had begun carrying a camera, taking pictures of the mostly poor, black people she encountered (published in 1971 as *One Time, One Place*). "I was never questioned or avoided," she recalled in 1989. "There was no self-consciousness on either side. I just spoke to persons on the street and said, 'Do you mind if I take this picture?' And they didn't care. There was no sense of violation of anything on either side." Certainly, there was no such sense in the undated photograph of a young Jackson woman taking her leisure that Welty called *Saturday Off* (above, right). Nor in the 1929 photograph of the Sunday School class at Jackson's Liberal Trinity Church of God in Christ. The words Welty wrote in her introduction to *One Time, One Place* still ring true: "In taking . . . these pictures, I was attended, I now know, by an angel—a presence of trust. In particular, the photographs of black persons by a white person may not testify soon again to such intimacy. It is trust that dates the pictures now, more than the vanished years." —*Angela M. Pleasants*

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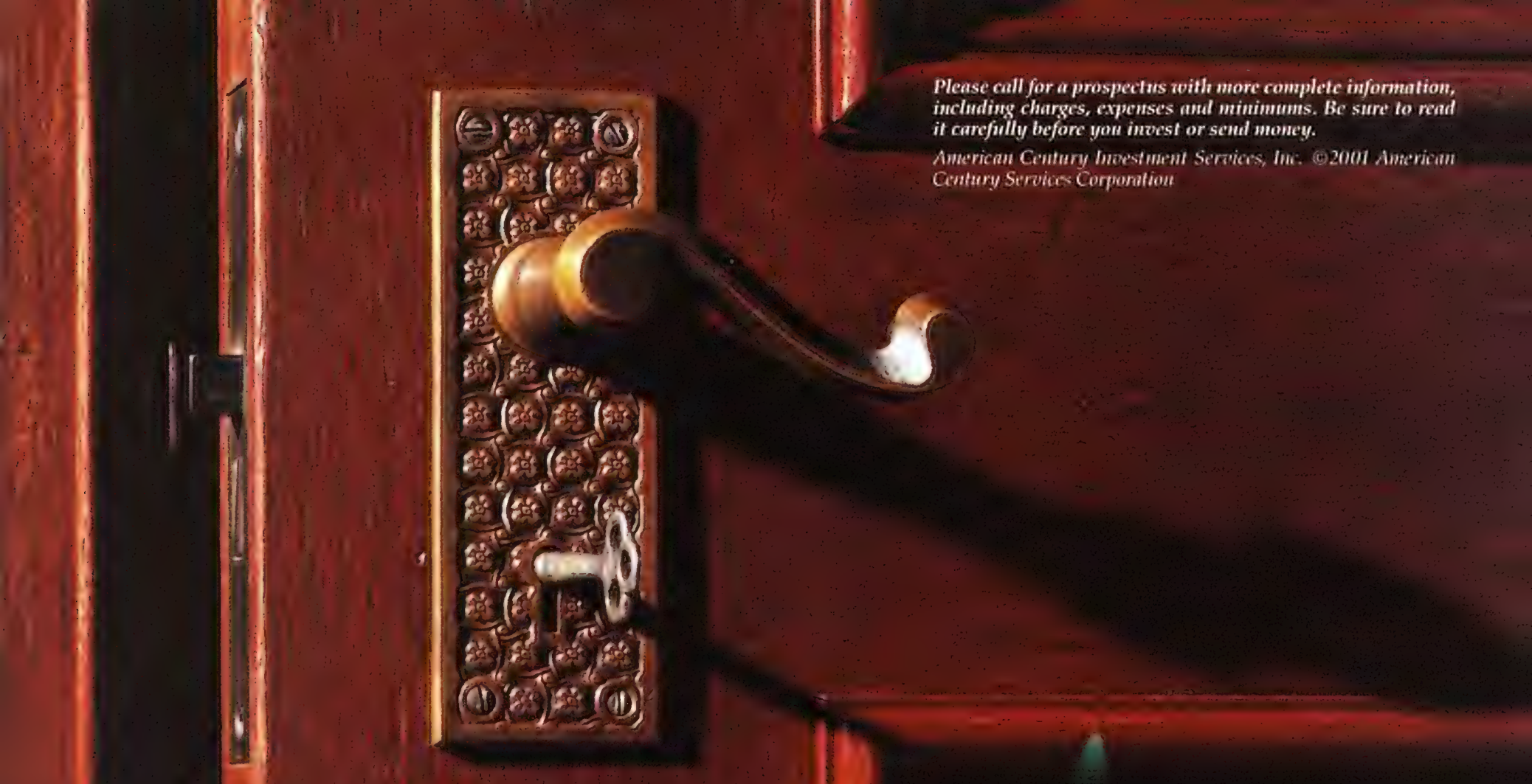

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A Model Solar System

SMITHSONIAN HIGHLIGHTS

IMAGINE THAT THE UNIVERSE IS ONE TEN-billionth its normal size and that you are a giant strolling through a system of planets. These celestial bodies, by contrast, are so small that they, their moons and sun are each within your grasp. Beginning October 17, you can take this cosmic trek.

"Voyage: A Journey Through Our Solar System" presents a scale model of our Sun and the planets, moons, asteroids and comets that orbit it. This outdoor exhibition along the Mall consists of 13 installations, including 9 where models of the planets and their moons are displayed, and another that showcases a model of the Sun. Others provide introductory text, and descriptions and images of the countless rocks, or asteroids, and comets. Distances between the models displayed reflect the distances between the real objects in space. Thus, the Sun and inner planets—Mercury, Venus, Earth and Mars—are near the National Air and Space Museum, while Pluto, the most distant planet, is located some 650 yards away from the Sun.

A computer-generated image of Neptune (below), one of several in the exhibit, reveals a faint ring system that was not discovered until it was photographed by the *Voyager 2* spacecraft in 1989. Methane gas creates the blue color. The gray, icy moon beneath it is Triton. —*Lucinda Moore*

For more highlights, plus a calendar of events at the Smithsonian, go to www.smithsonianmag.com.

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Avandia, along with diet and exercise, helps improve blood sugar control. It may be prescribed alone, with Glucophage® (metformin HCl tablets), or with sulfonylureas. When taking *Avandia* with a sulfonylurea, you may be at risk for low blood sugar. Ask your doctor whether you need to lower your sulfonylurea dosage.

Some people may experience tiredness, weight gain or swelling with *Avandia*.

Avandia in combination with insulin may increase the risk of serious heart problems. Because of this, talk to your doctor before using *Avandia* and insulin together. *Avandia* may cause fluid retention, or swelling, which could lead to or worsen heart failure, so tell your doctor if you have a history of these conditions. If you experience an unusually rapid increase in weight, swelling or shortness of breath while taking *Avandia*, talk to your doctor immediately. *Avandia* is not for everyone. If you have severe heart failure or active liver disease, *Avandia* is not recommended.

Also, blood tests to check for serious liver problems should be conducted before and during *Avandia* therapy. Tell your doctor if you have liver disease, or if you experience unexplained tiredness, stomach problems, dark urine or yellowing of the skin while taking *Avandia*. See important patient information on the following page.

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What is *Avandia*?
Avandia is one product in a class of prescription drugs called thiazolidinediones (thigh-a-zoe-lid-een-die-owns) or TZDs. It is used to treat type 2 diabetes by helping the body use the insulin that it is already making. *Avandia* comes as pills that can be taken either once a day or twice a day to help improve blood sugar levels.

How does *Avandia* treat type 2 diabetes?
If you have type 2 diabetes, your body probably still produces insulin but it is not able to use the insulin efficiently. Insulin is needed to allow sugar to be carried from the bloodstream into many cells of the body for energy. If insulin is not being used correctly, sugar does not enter the cells very well and builds up in the blood. If not controlled, the high blood sugar level can lead to serious medical problems, including kidney damage, blindness and amputation.

Avandia helps your body use insulin by making the cells more sensitive to insulin so that the sugar can enter the cell.

How quickly will *Avandia* begin to work?
Avandia begins to reduce blood sugar levels within 2 weeks. However, since *Avandia* works to address an important underlying cause of type 2 diabetes, insulin resistance, it may take 8 to 12 weeks to see the full effect. If you do not respond adequately to your starting dose of *Avandia*, your physician may increase your daily dose to improve your blood sugar control.

How should I take *Avandia*?
Your doctor may tell you to take *Avandia* once a day or twice a day (in the morning and evening). It can be taken with or without meals. Food does not affect how *Avandia* works. To help you remember to take *Avandia*, you may want to take it at the same time every day.

What if I miss a dose?
If your doctor has prescribed *Avandia* for use once a day:

- As soon as you remember your missed dose, take one tablet anytime during the day.
- If you forget and go a whole day without taking a dose, don't try to make it up by adding another dose on the following day. Forget about the missed dose and simply follow your normal schedule.

If your doctor has prescribed *Avandia* for use twice a day:

- As soon as you remember the missed dose, take one tablet.
- Take the next dose at the normal time on the same day.
- Don't try to make up a missed dose from the day before.
- You should never take three doses on any single day in order to make up for a missed dose the day before.

Do I need to test my blood for sugar while using *Avandia*?
Yes, you should follow your doctor's instructions about your at-home testing schedule.

Does *Avandia* cure type 2 diabetes?
Currently there is no cure for diabetes. The only way to avoid the effects of the disease is to maintain good blood sugar control by following your doctor's advice for diet, exercise, weight control, and medication. *Avandia*, alone or in combination with other antidiabetic drugs (i.e., sulfonylureas or metformin), may improve these other efforts by helping your body make better use of the insulin it already produces.

Can I take *Avandia* with other medications?
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What should I discuss with my doctor before taking *Avandia*?
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Signac at 20

Points of View

ARTIST PAUL SIGNAC STEPS OUT OF THE SHADOW OF HIS CELEBRATED COLLEAGUE, POINTILLIST GEORGES SEURAT, TO STAR IN A NEW EXHIBITION AT THE MET

BY STANLEY MEISLER

THE FRENCH PAINTER PAUL SIGNAC WAS 27 WHEN his friend and mentor Georges Seurat, only four years older, died of diphtheria in 1891. The shock was enormous. Signac would spend many years of his long life preaching, practicing and elaborating the theories of art that he and Seurat had championed together. He became known, in fact, as Seurat's Saint Paul.

"Whether Signac paints a stormy sea with bobbing Dutch vessels or tranquil waters reflecting ancient Venetian palaces, it is always this sparkling miracle, this rushing palpitation," wrote one critic of such works as *Grand Canal, Venice* (1905).

Signac would long lament the world's early failure to recognize Seurat as one of the geniuses of the 19th century. While young artists brimmed with admiration for the dead Vincent van Gogh, Signac wrote in his journal in 1894, Seurat had only "oblivion, silence."

No longer. Seurat is now recognized as one of the sublime talents of his era. His *Sunday Afternoon on the Island of La Grand Jatte* is practically an icon of modern art, and art history courses hail him as the inventor of Pointillism—the technique of packing "dots" of color together to mold different hues in the eyes of a beholder. A musical based on his work, *Sunday in the Park with George*, ran for a year and a half on Broadway in the 1980s. But Signac has fared far worse. He has often been regarded as little more than a disciple or mimicker of Seurat. "Scholars have looked on Seurat as the genius and Signac as the promoter," says Susan Alyson Stein, associate curator of European paintings at the Metropolitan Museum of Art in New York City. "In Pointillism, there was Seurat and that other guy, Signac."

Signac by Seurat, 1890

Georges Seurat, c. 1888

Signac's wife, Berthe (c. 1893), was the model for his virtuoso study in color, *Woman with a Parasol*, painted shortly after they married.

This judgment will surely change with a major exhibition of the works of Signac opening at the Metropolitan on October 9 after three months at the Galeries nationales du Grand Palais in Paris and three months at the Van Gogh Museum in Amsterdam. It is the first major retrospective of Signac's work to be staged in nearly 40 years. The curators believe that the show, which remains at the Metropolitan through December 30, will take Signac out of the shadow of Seurat. They are not trying to prove that Signac was better than his friend, only that he deserves to be judged on his own. "Working on the show, I discovered that Signac was a very different painter," says Stein, one of the exhibition's three curators. "I am always surprised by him."

Signac was a master of serene and exquisite seascapes and the creator of a handful of astounding, luminous portraits. He subjected his oil paintings to the rigors of his scientific theories of color but turned out scores of watercolors in bursts of freedom. Younger artists such as Henri Matisse came to him to study color and light, and traces of Signac's ideas turn up throughout modern art.

Gregarious and energetic—if hot tempered—he moved with ease among the painters, critics, novelists and poets of his day. Signac was a leader of artists, a tireless organizer of exhibitions, a fencer, an anarchist, a sailor with a bevy of regatta medals and a literary critic whose short, privately published treatise on the French novelist Stendhal impressed literary celebrities such as the writer Blaise Cendrars, who later deemed it "the smallest great book in the world."

Born in 1863, Signac grew up the only child in a prosperous family. His father and grandfather ran a fashionable Paris saddle and harness shop whose clientele included Emperor Napoléon III. Signac's father died of tuberculosis when Signac was 16, and the family sold the shop for a small fortune. His indulgent mother allowed him to quit school, rent a room in Montmartre and try to turn himself into a painter. He was largely self-taught. "My family wanted me to be an architect," he recalled years later, "but I preferred to draw on the banks of the Seine rather than in a studio at the Ecole des Beaux-Arts."

He did try an art class for a few months but learned far more by studying and copying old masters and contemporaries. Once, as he later liked to recount, while trying to sketch a work by Edgar Degas at an Impressionist exhibition, he was shown the door by Paul Gauguin. "One does not copy here, Monsieur," Gauguin admonished.

Signac revered the Impressionists. To Claude Monet, some 20 years his senior, he wrote: "I have been following the wonderful path you broke for us," but "I fear I may

PRIVATE COLLECTION; SMITHSONIAN INSTITUTION; SIGNAC ARCHIVES; MUSEE D'ORSAY, PARIS
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Signac's 1890 portrait of art critic and fellow anarchist Félix Fénéon, a booster of the artist and of Neo-Impressionism in general, reflects Signac's preoccupation at the time with decorative motifs, Japanese prints and abstraction.

lose my way." He begged for a brief meeting so that Monet could give him "the counsel I need so badly, for the fact is that I have the most horrible doubts, having always worked by myself, without teacher, encouragement or criticism." Monet agreed to receive him at a Paris hotel, and the two became lifelong friends.

Signac showed up often at the Chat Noir cabaret and other haunts of avant-garde artists and writers. His constant companion was Berthe Roblès, a milliner a year older who was a distant cousin of the painter Camille Pissarro. Signac did not paint figures often, but when he painted women, Berthe was the usual model. We catch a glimpse of her in a number of his paintings, including his 1893 *Woman with a Parasol* (opposite). In one of his many letters to his mother, to whom he was devoted, Signac recounted Berthe's features: "very black hair—brown-olive skin—small, plump—the half creole, half gypsy type—the most beautiful eyes in the world, so soft and so good." They married in Paris in 1892, ten years after they met. Signac was a few days short of 29, Berthe was 30.

Signac had first encountered Seurat at the Salon des Artistes Indépendants in 1884, an exhibition organized for artists rejected by the main salon of French artists and for those like Signac who did not even try to win admission. The two soon became close friends. They were odd companions, almost opposites, for Signac was extroverted and garrulous while Seurat was reserved and taciturn.

Despite their differences, the two were united in their desire to explore fresh ways of painting. They worked at a time when such wonders as electric power, the telephone and the phonograph were becoming available, and the theories of Charles Darwin dominated intellectual thinking. To prove modern and progressive, artists and writers invoked the muse of science.

Though Signac admired the Impressionists, both he and Seurat believed that a rational order needed to be imposed on the artists' haphazard impressions of color and light. Seurat was the first to come up with the technique of painting in small separate strokes. His *Sunday Afternoon on the Island of La Grand Jatte* attracted both notoriety and praise when it was exhibited at the eighth and last exhibition of the Impressionists in May 1886. Although the stiff

MUSEUM OF MODERN ART, NEW YORK

"We are in a studio, not a laboratory," critic Félix Fénéon declared in a letter to Signac.

figures, pointillist technique and large size irritated some critics and patrons, it drew a good deal of attention from younger critics, who looked on it as a form of social satire and admired it for its innovative techniques. Along with the work of Signac, Seurat spawned a movement that critic Félix Fénéon would admiringly dub Neo-Impressionism.

In June 1899, at the age of 35, Signac published a manifesto defending his and Seurat's approach titled *From Eugène Delacroix to Neo-Impressionism*. In it, he insisted that the Neo-Impressionists could fashion truer color and light than painters who mixed paints on their palettes, because the Neo-Impressionists were following principles based on the scientific laws governing the way that colored light is perceived. By juxtaposing small touches of different paints on the canvas directly, he argued, the colors would blend in the viewer's eye. He called this "optic mixing."

The work was laborious, for a painter might have to wait for one stroke to dry before applying another of a different color. To achieve a "maximum of light, color and harmony," Signac insisted, a Neo-Impressionist had to take into account how colors affected one another. A dark color next to a light color, for example, could make the dark darker and the light lighter. Signac likened the process to that of a composer taking each instrument into account while creating a symphony.

Fortunately, the rules were not always followed slavishly, and a painting's beauty remained more important than how it was produced. "We are in a studio, not a laboratory," Fénéon, who became Signac's friend and greatest supporter, declared in a letter to the artist. And Signac agreed.

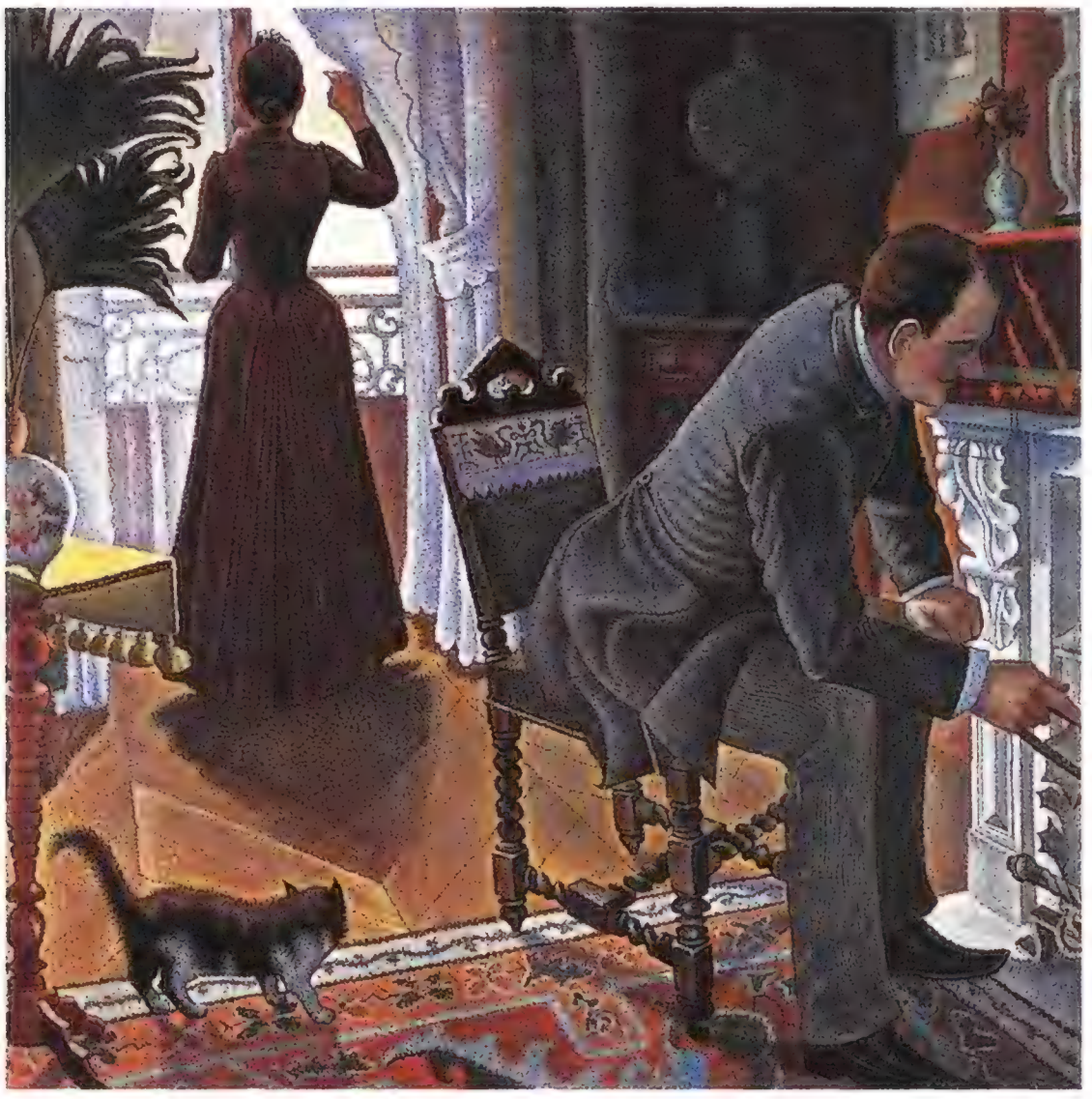
Although Signac's métier was outdoor scenery, he did try his hand at several interior views while Seurat was alive. Two of the most imposing, *The Dining Room* and *Sunday* (below), are in the Metropolitan exhibition. The heavily colored scenes, with their static figures, got mixed reviews from the critics, and for the most part, Signac abandoned the indoors in his work thereafter.

In a profile of Signac that Fénéon wrote for a serial publication called *Les Hommes d'Aujourd'hui*, the critic described the painter as "the young glory of Neo-Impressionism." The issue featured a drawing by Seurat of Signac in top hat, cape, cane and beard (p. 46), but otherwise Seurat went unmentioned. He wrote an angry letter to Fénéon pointing to "my prior paternity" as a Neo-Impressionist. "Signac's evolution was slower," he maintained. Signac, for his part, always credited Seurat with producing the first Neo-Impressionist painting.

After the profile of Signac was published, the artist offered to create "a painted, lifesize biography" of Fénéon. "I am only too willing to be your accomplice," the critic replied. The Met's Stein calls the resulting painting "one of the best portraits done in the last hundred years."

In it, Signac depicted the tall, dandified civil servant-turned-critic with a flower in the outstretched slim fingers of his right hand and a top hat, cane and gloves clutched in his other. He is marching across an abstract swirling mass of color in curves, waves and arabesques, inspired both by a Japanese woodblock print and a loosely rendered color wheel.

Signac tried hard to persuade other artists to take up Neo-Impressionism. Van Gogh, who met Signac in 1887 and painted with him for a while outside Paris, even tried the technique for a time. But, though fascinated by Signac's origi-



Although criticized for its stiff figures, stifling atmosphere and dark colors, *Sunday* (1888-90) manages to evoke the sense of psychological estrangement Signac intended.

PRIVATE COLLECTION

Signac often painted scenes of his beloved Saint-Tropez. In *Plane Trees, Place Des Lices* (1893), the pronounced stylization of the trees and rhythmic repetition of arabesque forms signal his ongoing interest in ornamental effects.

nal use of color, the Dutch artist was too excitable a spirit to submit to the rigors of Neo-Impressionism.

While Van Gogh was hospitalized in Arles in March 1889 (he had cut off part of his ear the previous year and had suffered a recent breakdown), Signac visited him and persuaded the doctor to let him out for the day so that he could show Signac his paintings. Ironically, the self-destructive Van Gogh was relieved to find his more stable companion quite agreeable. "I find Signac very calm," Van Gogh wrote his brother Theo, "although they say he is so violent. He seemed self-assured and well-balanced to me. . . . I have rarely or never had a conversation with an impressionist that was so free on both sides from disagreements or unpleasant clashes." Van Gogh presented Signac with a still life of two herrings as a gift and later thanked him in a letter for a visit that "helped lift my spirits." But he added that he still felt "a vast amount of inward despair." He would kill himself a year later.

Two weeks after his visit to Arles, Signac did lose his temper badly. During a stay in the town of Cassis, he complained to the mayor and priest that the bells of a nearby church were keeping him awake in his hotel, and a nasty argument erupted between the artist and a church member. Signac was challenged to a duel. The two men exchanged seconds and scheduled a duel with swords in Paris. But tempers must have cooled, as there is no evidence that the duel ever took place.

When Seurat died suddenly a couple of years later, Signac, by all accounts, was shocked and upset. "Horrible news," he wrote Belgian painter Théo Van Rysselberghe. "Our poor Seurat is dead." At the burial in Père-Lachaise Cemetery, Camille Pissarro found Signac "deeply moved."

CARNEGIE MUSEUM OF ART, PITTSBURGH

An avid sailor, Signac (on his yacht *Olympia* c. 1895) admired Joseph Conrad's tales of the sea.

In the years that followed, Signac took it upon himself to become Neo-Impressionism's chief proponent. While painters like Pissarro and later Matisse would flirt with Neo-Impressionism, they did not stay. Only lesser-known painters like Signac's good friend Henri-Edmond Cross remained. (The Met will present a satellite exhibition of Neo-Impressionist artists Seurat, Cross and their associates along with the Signac show.)

In the summer of 1891, Signac anchored his yacht *Olympia* in Concarneau on the Brittany coast and produced a series of paintings that rank among his greatest achievements—tranquil scenes of fishing boats slipping in and out of port. John Leighton, director of the Van Gogh Museum in Amsterdam and one of the current exhibition's curators, says that these paintings conjure "the effect of a slowly unfolding performance, played out in resonant and deliberate color harmonies." The metaphor would have pleased Signac, for he had assigned musical terms to these paintings, three of which are in the Met exhibition.

Decades before it would become chic, in May 1892, Signac discovered Saint-Tropez on France's Côte d'Azur. "I am settled here since yesterday," Signac wrote his mother, "and I am swimming in joy. . . . There is enough material to work on for the rest of my days. Happiness—that is what I have just discovered." From then on, he would try to devote a good part of each year to Saint-Tropez or some other Mediterranean port. The north of France had color, but the south had light. The light was so powerful, he said, that it gobbled up color.

Signac and artist Jeanne Selmersheim-Desgrange (in Antibes, 1913) fell in love c. 1909 while she was his student.

With Seurat, the master of the large mural, dead, Signac took on his own imposing canvas. The 13-foot-wide *In the Time of Harmony* depicts revelers frolicking in the Saint-Tropez sun in an anarchist vision of a utopian future and includes a self-portrait of the artist, barefoot, taking a fig off a tree, and a languid Berthe feeding a cherry to a naked child. The blatantly political, somewhat corny painting was not well received by critics and was one of Signac's last attempts to make a political statement in a painting. He did not, however, curtail his activism. He was a fervent supporter of Emile Zola in the novelist's campaign to free Alfred Dreyfus, the Jewish army captain imprisoned on trumped-up treason charges. Berthe herself was of Jewish descent, and when Signac heard of Degas's anti-Semitic diatribes during the Dreyfus affair, he sold his only Degas—a pastel of an actress in a green gown—one of the prize pieces in his collection. He would not buy another Degas until after the artist's death.

Signac spent the last four decades of his life mainly producing scenes of port and river life. Photographs and portraits by friends like Pierre Bonnard and Théo Van Rysselberghe show a forceful, bearded Signac at sea, often in a dark sailor's cap and a sweater. Sails, boats, nets, fishermen and wharves now attracted him as an artist the way haystacks and water lilies fascinated Monet. Although many of the seascapes look to be similar at first glance, some, such as his eerie 1895 *Storm, Saint-Tropez* (p. 52), stand out. His style had evolved. Now, instead of trying to reproduce nature's colors scientifically, he simply tried to create "the most harmonious, the most luminous and the most colorful result. . . . " No longer setting down dots on his canvases, he used broad brush strokes to create separate blocks of color, almost like a mosaic. As paintings such as his 1905 *Grand Canal, Venice* demonstrate, he had become more decorative and less rigid.

As he grew older, Signac turned increasingly to watercolors, which he first came to at Pissarro's suggestion as a way of catching impressions or taking "notes" for use in his studio oils. Soon he was creating them for their own sake. With their freshness and disorder, they are among his finest achievements.

During World War I, Signac was distressed at his fellow anarchists and pacifists for abandoning their international

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Signac first sailed into Saint-Tropez in May 1892 aboard his 36-foot cutter *Olympia*. Over time, he would portray many moods of its picturesque harbor. The simple composition and freer execution of *The Storm, Saint-Tropez* (1895) marks a change in Signac's style.

ideals to fight for their countries, and he did little painting. His production in the 20th century was slowed as well by his work as an organizer of exhibitions, and possibly by complications in his personal life. He had fallen in love with Jeanne Selmersheim-Desgrange, a painter and designer of jewelry, who was married and the mother of three children. Ridden by guilt, he maintained Berthe in their Saint-Tropez villa and moved with Jeanne into another house on the Mediterranean in Antibes. He visited and wrote to Berthe often, and they never divorced. Jeanne gave birth to a girl, his only child, in 1913, when he was nearly 50 years old. Named Ginette, after the heroine of a Stendhal novel, she grew up to marry a physician, Charles Cachin, the son of a Communist Party leader who was an old friend of Signac's. Their daughter, Françoise Cachin, is a distinguished art curator who retired earlier this year as director of the national museums of France.

In 1929 Signac's friend Gaston Lévy, the founder of the French Monoprix department-store chain, commissioned him to sail into 100 French ports and paint two watercolors in each, one for Lévy, the other for the artist himself. Signac, who had conceived the idea for the project, estimated he would complete it in six months, but it took two years. Several of these paintings, some of Signac's finest, will be included in the Metropolitan's exhibition.

In his last months, the lifelong pacifist participated in an antifascist rally, criticizing Adolf Hitler and calling for a boycott of German products. After a sailing trip to Corsica, he developed kidney problems and died in Paris on August 15, 1935, at the age of 71.

Although Signac lived well into the 20th century, he hardly belonged to it. He was, as Françoise Cachin has written, "one of the last nineteenth-century presences, linked by his optimism and positivist faith in the future of technical and human progress to the great hopes of romanticism."

A former Paris correspondent for the Los Angeles Times, *Stanley Meisler writes frequently about art for* SMITHSONIAN.

L'ANNONCIADE, MUSÉE DE SAINT-TROPEZ

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Pictured: Juston Smart and his dad, Jeff. Juston is a brain tumor survivor and supporter of the *Ride for Kids* program. For more information, call the Pediatric Brain Tumor Foundation of the United States at 1-800-253-6530, or visit pbtfus.org. ©2001 American Honda Motor Co., Inc.

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Mister Faulkner Goes to Stockholm

Faulkner (at West Point in 1962) had to be tricked into going to Sweden to accept the Nobel Prize in person.

IN SIX SHORT YEARS, WILLIAM FAULKNER WENT FROM SALARIED HOLLYWOOD SCRIPT DOCTOR TO WINNER OF THE NOBEL PRIZE IN LITERATURE. HOW HAD THIS SEEMING MIRACLE OCCURRED?

WILLIAM FAULKNER TURNED 47 IN 1944. After two decades of writing, he didn't have much to show for his efforts. All but one of his 17 books had fallen out of print; the New York Public Library's immense catalog maintained cards for only two of his works. Even Maxwell Perkins, the respected editor of Ernest Hemingway, F. Scott Fitzgerald and Thomas Wolfe, casually remarked at the time, "Faulkner is finished."

It certainly looked that way. During most of the early 1940s, Faulkner's main source of income was Hollywood, where he worked sporadically as a screenwriter at a salary ranging from $300 to $400 per week. (Some of his collaborators were paid up to eight times as much.) Faulkner hated the work but needed the money; he was responsible for his wife, Estelle, and their daughter, Jill, and for the maintenance of Rowan Oak, an 1840s Greek Revival house in his native Oxford, Mississippi, that he had bought a decade earlier in the hope that his books would support its upkeep. With its gracious grounds and scattered outbuildings, Rowan Oak looked more like the residence of a Southern gentleman farmer than a salaried script doctor living in rented rooms in Los Angeles and trying to adapt other people's books for the movies.

But it was in Rowan Oak only six years later, on the morning of November 10, 1950, that Faulkner answered the telephone and learned from the New York correspondent for the Swedish newspaper *Dagens Nyheter* that he had just been awarded the Nobel Prize in Literature.

U.S. literary history affords few reversals of fortune more startling, even melodramatic, than Faulkner's: from Perkins' dismissive comment in 1944 to the Swedish Academy's laurel in 1950. What had happened?

For one thing, Faulkner's fiction had generally been received more enthusiastically in Europe, particularly in France, than in America. That the Swedish Academy reflected and ratified this interest seems, in hindsight, less surprising than it did at the time, when Faulkner was still not widely acclaimed in his homeland, and Hemingway and John Steinbeck, both later Nobel laureates, were famous.

That native neglect had begun to dissipate, though, thanks to the efforts of the *New Republic* editor and critic Malcolm Cowley, only a year Faulkner's junior. In a series of essays written for his own magazine and for other influential literary publications, Cowley argued during the early 1940s that no single Faulkner novel or collection of stories fully conveyed the scope of the writer's grand narrative design. Even the books that had been recognized by some critics as quirky masterpieces—*The Sound*

His Nobel acceptance speech did as much to make Faulkner (with daughter, Jill, en route to Stockholm in 1950) a household name as had any of his books.

BY PAUL GRAY

and the Fury (1929), *As I Lay Dying* (1930), *Absalom, Absalom!* (1936)—were episodes, Cowley insisted, in a longer tale. Faulkner himself had provided a hint of what he was up to when he drew a map and had it included in *Absalom, Absalom!* A rectangular shape, bordered on the top and bottom by winding rivers and bisected down the middle by a road and railway line, the drawing indicated the locales of various events in Faulkner's fiction and bore this legend: "Jefferson, Yoknapatawpha Co., Mississippi. Area, 2400 sq. mi. Population, Whites 6298 Negroes 9313. William Faulkner, Sole Owner & Proprietor."

Cowley's essays and personal lobbying persuaded the Viking Press to commission him to put together an anthology drawn from Faulkner's published works for its Portable Library series. When Cowley told him of this decision, Faulkner wrote back, "By all means let us make a Golden Book of my apocryphal county." A steady stream of correspondence followed, Cowley questioning, Faulkner, sometimes patiently, sometimes not, responding. *The Portable Faulkner* was published April 29, 1946.

"This award was not made to me as a man," said Faulkner (accepting the prize from Sweden's King Gustaf Adolf VI in December 1950), "but to my work—a life's work in the agony and sweat of the human spirit."

No one had seen Faulkner's fictional world set forth in the way that *The Portable Faulkner* displayed it, not even the author himself. When he received an advance copy of the book, Faulkner at once wrote to Cowley, "The job is splendid. Damn you to hell anyway. But even if I had beat you to the idea, mine wouldn't have been this good. By God, I didn't know myself what I had tried to do, and how much I had succeeded."

In putting together *The Portable Faulkner* from previous books, Cowley presented the Yoknapatawpha saga in chronological order. This had the effect of creating a seamless historical chronicle, of tying together what Faulkner, using modernist techniques, had presented in flashes and fragments and from different angles—not unlike a Cubist painter. Cowley's introduction to the book stressed a grand design behind Faulkner's art: "All his books in the Yoknapatawpha cycle are part of the same living pattern. It is this pattern, and not the printed volumes in which part of it is recorded, that is Faulkner's real achievement." And Cowley insisted: "There in Oxford, Faulkner performed a labor of imagination that has not been equaled in our time."

Until Cowley's assessment, the work for which Faulkner was best known by the general reading public was *Sanctuary* (1931), and this novel, the only one to remain in print, had done his reputation harm. Its plot—an impotent Memphis gangster named Popeye rapes an upper-class Southern girl with a corncob—was shocking at the time. Faulkner only made matters worse by writing a preface to a Modern Library reprint of the novel, in which he claimed to have "speculated what a person in Mississippi would believe to be current trends, chose what I thought was the right answer and invented the most horrific tale I could imagine and wrote it in about three weeks." In truth he tore up *Sanctuary*'s galley proofs when he got them from his publisher and carefully rewrote the novel. Faulkner's seeming dismissal of his own work was in fact a sarcastic response to critics who suggested that he would write anything, no matter how depraved, for money.

During his correspondence with Cowley, Faulkner attempted to counter another criticism that had stuck to his work—that it was of regional and therefore limited interest. "I'm inclined to think that my material, the South, is not very important to me. I just happen to know it, and don't have the time in one life to learn another one and write at the same time."

Faulkner's claim seems, at first, preposterous. The South not important to an author who wrote of virtually nothing else? But Faulkner was not denying that the South had shaped him and his fiction; he was arguing instead that his fiction transcended any region. What he liked to call his "postage stamp" of native soil in northern Mississippi grounded his vision and gave him a foothold on the universe. He told old stories that seemed new be-

CORBIS; P. 56 VYTAS VALAITIS/FPG; P. 57 BETTMANN/CORBIS

cause they had been transplanted to fertile earth: of men and women hacking a civilization out of wilderness and then succumbing to the sins and betrayals that civilization entails.

After *The Portable Faulkner* appeared, everything changed. *Intruder in the Dust* (1948) was the first Faulkner book published in six years; that gap, the longest of his writing career, suggests how draining neglect, financial need and Hollywood had been. Unexpectedly, *Intruder* became a commercial success, selling 15,000 copies. More important to Faulkner, MGM bought the screen rights for $50,000; for the first time in his professional life, he did not have to face each day worried about money.

The Nobel Prize, though, brought new worries. The journalist who phoned Faulkner with the news that November morning asked whether the author was looking forward to the trip to Stockholm in December to accept the award. Faulkner replied that no, he would not be doing that; he was a farmer, and Sweden was just too far from Mississippi for him to travel. When Faulkner said goodbye and hung up the phone, he mentioned the news to neither Estelle nor Jill; he knew they would hear of it soon enough, and, so, to his discomfort, would the rest of the world.

In Stockholm, Faulkner (with wife, Estelle, in 1955 at his Mississippi estate) surprised fans and critics alike with his optimism and spirituality. Man "is immortal," he said, "because he has a soul, a spirit capable of compassion and sacrifice and endurance."

It had been easy for Faulkner to maintain his privacy when hardly anyone thought to intrude on it. The Nobel meant that all sorts of strangers would start prying into his life. Appearing at the awards ceremony would make him a public figure; he hoped to avoid that by simply staying away.

Nearly a week after hearing about the prize, Faulkner escaped the hubbub that had erupted in Oxford for an annual ritual—a week of hunting at a deer camp in the Mississippi Delta. His comrades were local Oxford men, most of whom he had known since childhood; theirs was the only company in which he could feel completely at ease. The hunters were hardly impressed by the presence of a world-famous author in their midst. Faulkner pulled dishwashing duties in his turn and slept under the stars despite increasingly chilly weather. He also drank heavily—hunting was not the only attraction these outings held for him—and caught a cold that threatened to tip into pneumonia.

He returned to Oxford in bad shape, ill and medicating himself with alcohol. His condition alarmed those who had been plotting, in his absence, to get him to go to Stockholm no matter what. For Faulkner's refusal to attend the awards ceremony had not only disappointed those in Sweden and elsewhere who had supported his work; it also raised diplomatic problems for the U.S. State Department. It simply would not do for an American writer to snub the King of Sweden.

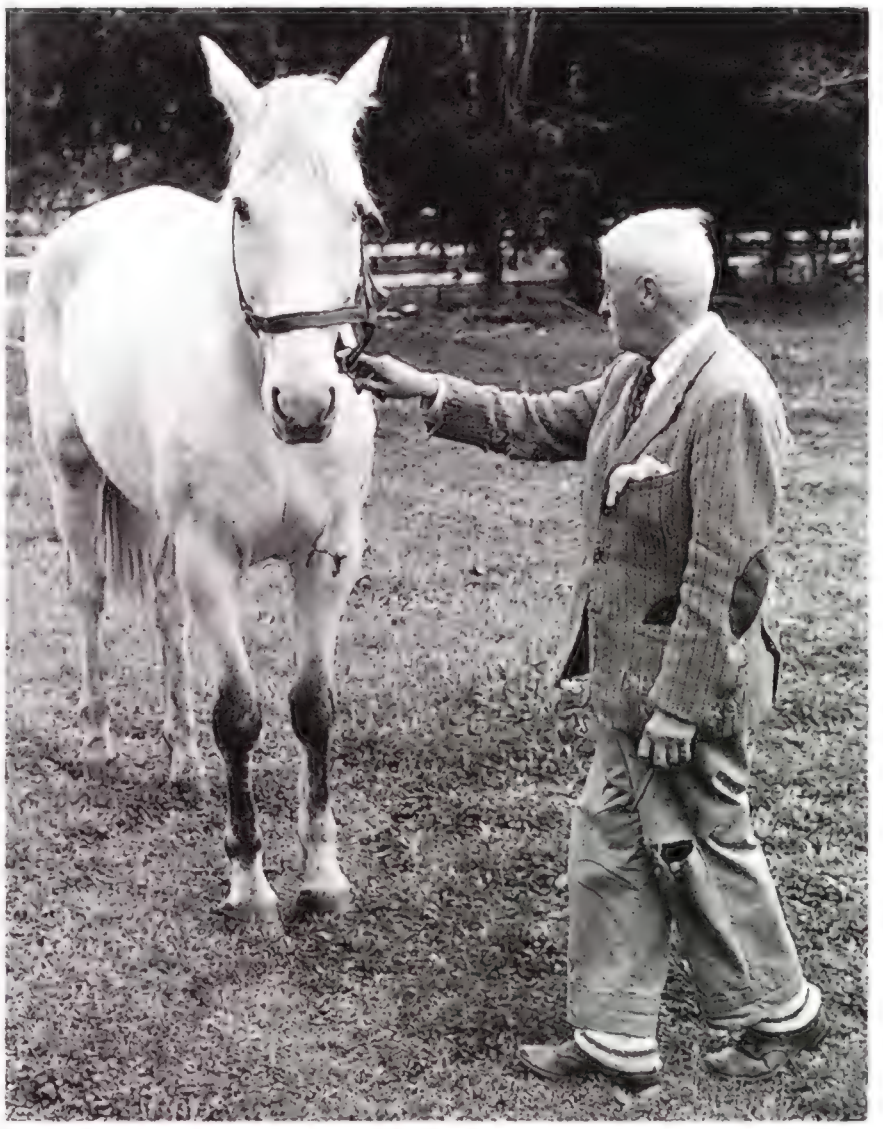
Bundling the author up physically and forcing him to go to Stockholm

BETTMANN/CORBIS

obviously would not work; he had to be persuaded. And an appeal was finally devised that Faulkner could not refuse. Estelle told him that she had no interest in going to Europe but that Jill, then 17, very much wanted to make the trip. Actually, Jill was not at all eager, but she agreed to go along with the ruse. So, finally, did her father.

But he had to be babied and coaxed every step of the way. Realizing that he had a reprieve until the scheduled December 6 departure, he maintained his drinking binge, promising to taper off by December 4. He was not fooled when those around him fiddled with the calendars and told him it was later than he thought. When he and Jill, en route, stopped over in New York City, a new set of handlers took over his care and monitored his intake of alcohol. Once in Stockholm, an English butler was on hand to keep him presentable.

The butler largely succeeded; Faulkner arrived at the ceremony looking elegant in his rented formal wear, even though he had refused to shave his stubble or to discard the soiled trench coat he had worn on the trip over. But when the time came for him to deliver his acceptance address, Faulkner stood too far from the microphone and read his prepared remarks too rapidly. These mistakes, compounded by his Southern accent, ensured that almost no one present could understand what he said. Only when Faulkner's text was printed in newspapers the next day did the world take note, particularly of a single sentence that arguably would become the most-cited quotation from any Nobel speech: "I believe that man will not merely endure: He will prevail."



Thrown from Stonewall, Faulkner (with him in 1962) remounted and rode him over some jumps. "You don't think I'd let that damned horse conquer me, do you?" he said later. "I had to conquer him."

This optimistic rhetoric from an author who had described life as "the same frantic steeplechase toward nothing everywhere" surprised many of his readers even as it won wide favor. Faulkner had become, against his will but unavoidably, a public figure. In the years following the Nobel, he adapted with increasing grace to that role. He made goodwill tours for the State Department and spoke out occasionally on public issues, angering some Southerners by urging them to integrate their society voluntarily, with honor, and offending integrationists by suggesting they move more slowly. He no longer ducked critics and academics who wanted to ask him about his writing, and accepted a position as writer-in-residence at the University of Virginia.

It was there, in 1962, during my first year of graduate school in English literature that I met Faulkner. I had seen him many times before then. As an undergraduate at the University of Mississippi, I had begun reading Faulkner's books, knowing that the author lived nearby. As I became more interested in the fiction, my curiosity about the man increased. So I would loiter around the Oxford square, hoping for a glimpse of my new favorite writer. Though I now and then got one, I never considered talking to him.

But here in Charlottesville, not only had I been introduced to him by a professor of mine, but I was sitting in classrooms where I was encouraged to discuss his books with him. Soft-spoken, in a whispery Southern accent, and courteous, he responded to students' raised hands with a "Yes, sir?" or "Yes, ma'am?" He answered all questions patiently, sometimes humorously, about words he had written decades earlier. Sometimes he said he just couldn't remember, which struck us, in thrall to the egotism of the young, as absurd. How could he not know his works as thoroughly as we did?

The last time I saw him we discussed some Oxford people we both knew, and I said I looked forward to seeing him back at UVa in the fall. Back home in Mississippi, Faulkner was thrown by Stonewall, one of two horses he bought in 1962, and began suffering back pains. As they worsened, so did his reliance on painkillers and alcohol. He agreed to be taken to a nearby sanatorium, where he had dried out before. At age 64, on July 6, 1962, he died of a heart attack.

Paul Gray has taught at Princeton University and worked as a senior editor at Time. *This is his first article for* SMITHSONIAN.

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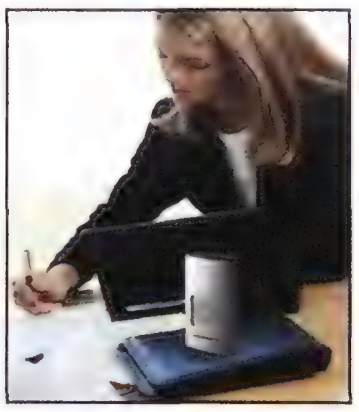

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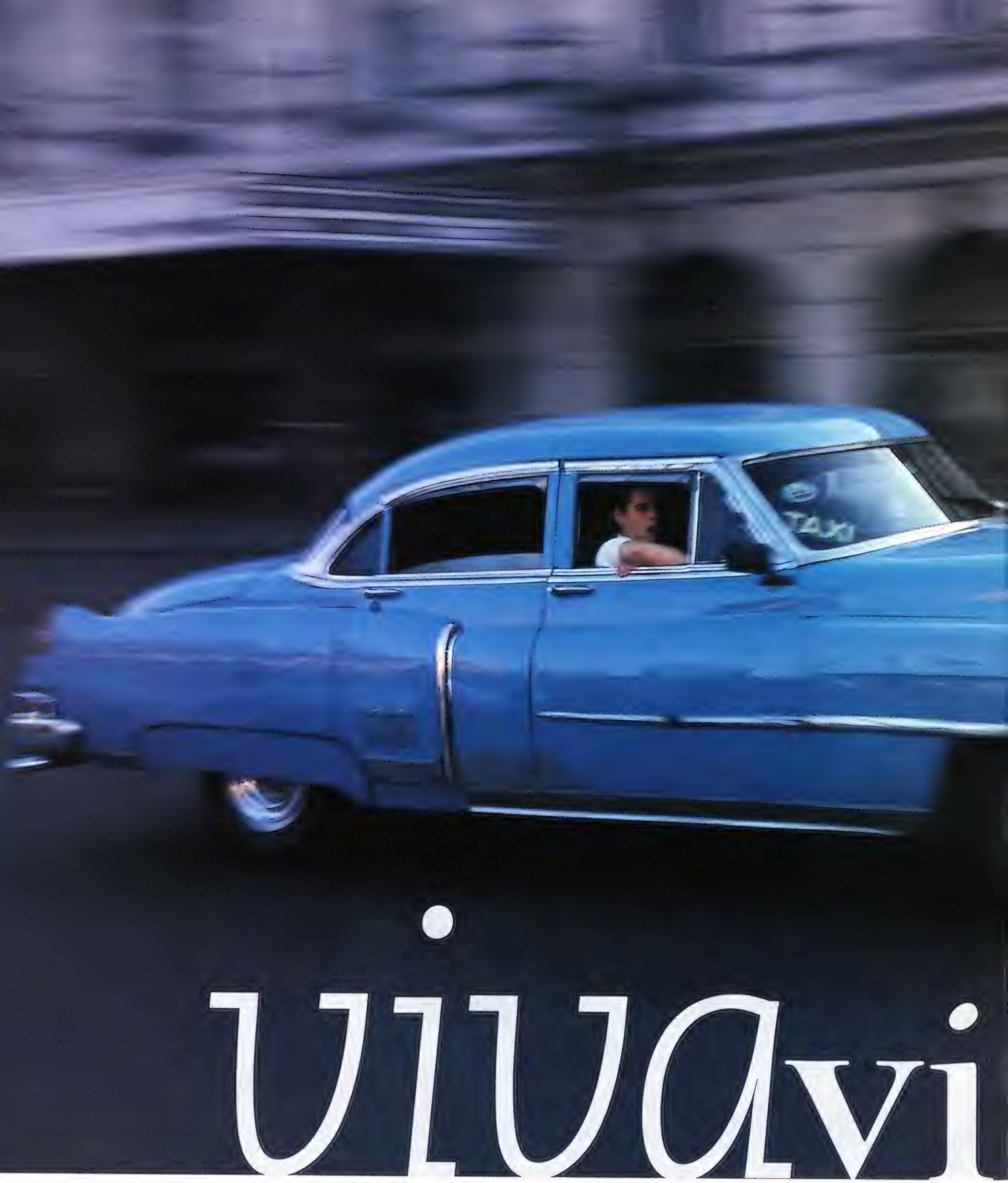

viva vi

As Fidel looks the other way, classic capit

ntage

alist cars brighten Cuba's dreary streets and byways

PHOTOGRAPHS BY SCOTT S. WARREN

FEW SHOPS REMAIN ALONG THE Malecón, Havana's once chic ocean side boulevard, and the buildings crumble with neglect. But then the eye catches a flash of chrome, the curves of an outrageously shaped tail fin, a splash of aquamarine or sky-blue fender. One hears the throaty rumble of an old but powerful engine. It may belong to a '46 Ford, or perhaps an Eisenhower-era Chevrolet, a vintage Cadillac or a long-in-the-grille Buick. These classic cars recall a time when Ernest Hemingway drove these streets and the Tropicana nightclub poured salsa tunes out into the moist evening air.

Thousands of American cars from yesteryear cruise Havana's streets; they are a kind of rolling museum, a paean to Detroit at its gaudiest. More than 40 years of Castro-style communism have stripped most visible vestiges of consumer society, but the showboats left on the island when the revolution occurred continue to endure, partly because of a chronic transportation crunch, but mostly because of their owners' mechanical ingenuity.

Without access to spare parts under the American trade embargo, Cubans have resorted to cannibalizing other vehicles and fashioning their own parts out of available materials. Romanian diesel engines idle under some hoods; many a body is brightened with a coat or two of house paint; a broken brake light is patched with red plastic from a drinking glass; or homemade brake fluid is manufactured from detergent, rubbing alcohol and tree sap. Many of these cars are heirlooms, kept in families for generations, their odometers turning over many times.

While Hemingway's '55 Chrysler New Yorker DeLuxe convertible may or may not be on the road, you can bet parts of it live on. Who said there are no second acts in American lives? (F. Scott Fitzgerald, but that's a whole other story.) —*John F. Ross*

This '53 Cadillac Series 62 first took to the roads of Havana a half-dozen years before Fidel Castro began his long-running reign as communist leader of Cuba.

Che Guevara looks over Alberto Lográ and his '51 Chevrolet DeLuxe Styleline. "You will find shortages of everything except ironies," writes Pico Iyer about Cuba.

Mario Angeri often cruises Havana's Malecón in his '52 Oldsmobile DeLuxe 88, joining many other classic American cars parading down the four-mile-long seaside boulevard.

Owning a *cacharro*, the affectionate term for a jalopy, is a great source of pride for families such as Domingo Madigdo and his wife, Dalia, who adore their '48 Plymouth DeLuxe.

Should a rock crack the windshield of Miguel Maleno's '51 Pontiac Chieftain, he may resort to using Plexiglas until he can scrounge up a rare piece of replacement glass.

To combat the bleaching action of the subtropical sun and the corrosive effects of salt air, Elio Rodriguez has painted his '58 Edsel Ranger at least three times.

In a nation where a factory job pays $6 a month, Eddi Mendoza hires out his '56 Pontiac DeLuxe Chieftan 870 as a taxi to afford gas prices of more than $3 per gallon.

Because of high gas prices, taxi driver Angel Cardona will wait until he fills up his '49 Chevrolet DeLuxe Styleline with paying passengers before he travels to another city.

Newlyweds often climb into rented classic American cars, such as this beribboned '56 Ford Fairlane Sunliner convertible, after their nuptials at the Palacio de los Matrimonios, Havana's neo-Renaissance Palace of Marriage.

Unlike America, where vintage cars often reside in climate-controlled garages and rarely hit the highway, Cuba's classic automobiles are works in progress.

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Forever Young

BY RICHARD COVINGTON

THE RECENTLY RENOVATED ANNE FRANK HOUSE IN AMSTERDAM, WHERE THE GIFTED TEENAGER HID FROM THE NAZIS, CELEBRATES HER LEGACY

I AM STANDING IN ANNE FRANK'S NARROW BEDROOM IN front of yellowing, meticulously restored fan magazine photographs of 1940s Hollywood film stars Norma Shearer and Greta Garbo, and Princess Elizabeth of York, the young, fresh-faced future Queen of England. I have brought my daughter Billie, 10, to the Anne Frank House.

It was here in this four-story brick office building, a 17th-century canal house, that Anne, her sister, parents and four other Jews hid in the rear secret annex for 25 months during the Nazi occupation. It was here that Anne wrote the diary that has given tens of millions of readers around the world the impression that they were living through the fearful, tedious, trying, occasionally funny experience with her.

One in four visitors to the Anne Frank House comes from the United States.

I imagine her at her desk grappling with algebra, so frustrated with the impenetrable textbook that she was "ready to tear the blasted thing to pieces." Only her father Otto's threat to take away her diary scared her enough to keep slogging through the detested stuff. I see her huddled silently with the others, dreading discovery as burglars ransack the offices below. I picture Anne laughing in the kitchen when her father's business partner, Hermann van Pels, tries to make sausages and succeeds only in making "a glorious mess," as she so gleefully puts it.

By the end of our visit, I'm as shaken and inspired by Anne's

Anne shared her room (left) with prissy dentist Fritz Pfeffer, a family friend. "I feel like knocking him off his chair," she wrote, "and throwing him out of the door."

"I long to ride a bike, dance."

Anne called her doting father, Otto, "the dearest darling of a father I have ever seen."

At Auschwitz, Edith put her daughters' lives above her own, sneaking them her food.

The Franks went into hiding when Margot, 16, was ordered to a labor camp in 1942.

Anne was at her happiest, a friend later recalled, "with everybody looking at her."

By the time Peter van Pels, 17, kissed Anne in April 1944, she had begun to despair.

When dentist Fritz Pfeffer helped himself to most of the gravy at dinner, Anne fumed.

indomitable spirit and effervescent wit as my daughter is. What would we have done in similar circumstances? Rereading Anne's diary after decades, I'm struck again by what a terrific writer she was. I have no doubt she would have become the formidable journalist and author she aspired to be had she not died—a few months shy of her 16th birthday—of typhus in the concentration camp at Bergen-Belsen.

Anne was a tirelessly searching, sharp-tongued, cheerfully exuberant and doubting adolescent. Despite the many privations, she could still look on her time in hiding as an "amusing" adventure. "Why, then, should I be in despair?" she writes. Her know-it-all arrogance would have driven me crazy at times, but by the end of the diary, you love her, respect her wisdom and grieve as if you have lost a fiercely talented daughter, sister or friend. As the Italian author Primo Levi, himself a Holocaust survivor, once put it: "One single Anne Frank moves us more than countless others who suffered just as she did, but whose faces have remained in the shadows."

The diary came as a revelation, giving the world a window into life in hiding, an ordeal few people outside Europe had any inkling of whatsoever. The diary reached profoundly into people's lives. Nelson Mandela, the former president of South Africa, credited it with giving him and his fellow Robben Island political prisoners spiritual nourishment.

Overlooking one of Amsterdam's picturesque canals, the Anne Frank House has become a place of pilgrimage. Although a short introductory video depicts the rise of Nazism, there is very little horror here. The annex is utterly ordinary, its 538 square feet awkwardly cramped for eight residents but a home nonetheless. "What we're trying to do is reach people emotionally so that they feel personally involved in what took

TOP FOUR: ANNE FRANK HOUSE/ARCHIVE PHOTOS; BOTTOM TWO: ANNE FRANK HOUSE, AMSTERDAM; PP. 70, 71 ALLARD BOVENBERG/ANNE FRANK HOUSE; AKG PHOTO, LONDON

place on this spot," says executive director Hans Westra.

The genial Westra has spent the past 27 years preserving the legacy of Anne Frank. After a four-year face-lift and expansion, the museum, first opened in 1960, now has space for changing exhibitions, a café with reading tables, and computer kiosks that allow visitors to explore an award-winning CD-ROM detailing the house, relationships among the residents and their daily routines.

By the time the Franks went into hiding in the summer of 1942, Amsterdam's Jews were being rounded up and packed off into freight trains to concentration camps in Germany and Poland. The Franks had fled Frankfurt to Amsterdam in 1933, hoping to escape the Nazis and the rising tide of anti-Semitism. They were among the 25,000 Dutch Jews who went into hiding in attics, cellars and barns.

For more than two years, the office building where Otto had sold herbs and spices for sausages, and pectin for making homemade jam, proved an ideal hiding place. He asked his four office employees if they would help bring food and supplies. They said yes without hesitation, knowing that they were risking their lives.

Otto had been secretly preparing the annex for a year when, on July 5, 1942, Anne's 16-year-old sister, Margot, was ordered to report for transport to a labor camp in Germany. Very early the next day, the Franks took refuge in the annex. A week later, Hermann van Pels, his wife, Auguste, and 15-year-old son, Peter, joined them. Fritz Pfeffer, a middle-aged dentist and Frank family friend, arrived a few months after on November 16.

Anne's parents had given her the red plaid diary on June 12, for her 13th birthday. In her first entry, the seemingly lighthearted, flirtatious class clown wrote that she hoped to confide in it as she had never been able to confide in anyone before. After filling this book, she continued her musings in school exercise tablets until August 1, 1944, three days before the annex was discovered. Writing in Dutch (occasionally peppered with German phrases and quotations), she confessed her innermost thoughts, desires and fears. At first, she had no intention of publishing it, but when the exiled Dutch minister of education broadcast an appeal in March 1944 for "simple" writings by ordinary people during the occupation, Anne started feverishly revising her entries on loose-leaf sheets of paper, giving the residents pseudonyms and paring away embarrassing parts, confidently transforming what had been a somewhat childish, rambling monologue into a polished narrative suitable for publication.

Once the main house windows were blocked, the annex was "hidden."

As Miep Gies, one of the four "helpers," says to an interviewer in the museum video, "Anne had eyes that sparkled and was completely spontaneous. She bristled with life." Try as Gies might to gloss over the beatings and arrests going on outside, she could never fool Anne. The insatiably curious teenager always got the truth out of her.

Terrified that the hiding place would be discovered, Anne resorted to taking daily doses of the sedative valerian to control bouts of anxiety and depression. "I wander from room to room, climb up and down the stairs and feel like a songbird whose wings have been ripped off and who keeps hurling itself against the bars of its dark cage," she wrote in October 1943. "I long to ride a bike, dance, whistle, look at the world, feel young and know that I'm free." She wondered if in time people would "not worry about whether or not I'm Jewish and merely see me as a teenager badly in need of some good plain fun."

Occasionally, she did cut loose. "I'm currently going through a dance and ballet craze and am diligently practicing my dance steps every evening," she wrote in January 1944. Pressing the more restrained Margot to dance along with her in the front office, Anne fashioned "an ultramodern dance costume" out of her mother's lacy lavender slip.

"Mad on books and reading," as she put it, she adored mythology and genealogy and spent hours charting family trees of European royalty. Music was another passion; listening to Mozart on the radio "stirs me to the very depths of my soul," she wrote. Anne was also an uncommonly busy, if sometimes balky, student. Under Otto and Margot's tutelage, she plunged into history, geography, art history, Bible studies, French, English, German literature and shorthand.

Although she could be lacerating about the self-absorbed Mrs. Van Pels,

AKG PHOTO

"I'm trying very hard to change."

A hinged bookcase hid the stairs to the secret annex where the Frank family and four others lived for more than two years.

"If you're trying to diet," Anne quipped about meals of rotten potatoes and cooked lettuce, "the annex is the place to be."

she saved her sharpest barbs for her dentist roommate Fritz Pfeffer (called Alfred Dussel in the diary).

She constantly fought with her mother, Edith, whose reproaches, Anne fumed, pierced her "like arrows from a tightly strung bow." Eventually, Anne tried to accept some of the responsibility, blaming herself for being "insolent and beastly." She remained close to Otto despite her anger over his admonition not to carry her crush on Peter too far. The rapidly maturing Anne was nothing if not opinionated, unafraid to sound off about war, politics and the inequality of women. "One of the many questions that have often bothered me is why women have been, and still are, thought to be so inferior to men," she reflects.

Like the rest of the annex residents, Anne also spent a good deal of time planning for the day when she could walk out the front door in freedom. She dreamed of spending a year in Paris and London, learning languages and studying art history. In her final entry, Anne struggles to come to grips with a personality that she admits is "split in two"—the amusing clown and the side that is "purer, deeper, finer" that she's afraid to expose to ridicule. "What I say is not what I feel, which is why I have a reputation for being boy-crazy as well as a flirt, a smart-aleck and a reader of romances," she writes. "The happy-go-lucky Anne laughs, gives a flippant reply, shrugs her shoulders and pretends she doesn't give a darn. The quiet Anne reacts in just the opposite way." She then admits that "I'm trying very hard to change myself, but that I'm always up against a more powerful enemy." Three days after she wrote these words, the secret residents of 263 Prinsengracht were arrested and Anne's diary lay scattered on the floor.

For many Americans, the diary was their literary introduction to the Holocaust. Of the 25 to 30 million copies in 60 languages, at least a quarter were sold in the United States. More than half of the nation's high school students have read it.

Since the renovation of the museum, personal belongings are now on display. Billie and I looked at some of the *Cinema & Theater* movie magazines the office manager faithfully brought for Anne, who was crazy about film stars and even fantasized about going to Hollywood. There's a postcard implying that the Franks had fled to relatives in Switzerland, intended to throw would-be pursuers off their track.

Climbing steep stairs to the third floor, my daughter and I thread past a hinged bookcase and emerge into the secret annex. In the bedroom that Margot shared with her parents, Edith Frank's prayer book is on display, a witness to the devout Orthodox faith she tried and failed to instill in Anne. Otto's well-thumbed edition of Dickens' *Sketches by Boz* rests nearby. On one wall, a map of Europe bristles with pins marking the progress of the Allied invasion that kept the residents glued to banned BBC broadcasts in the summer of 1944. As early as July 1942, the station reported on the gassing of prisoners in camps in Poland. Later, the occupants rejoiced at the news of Italy's capitulation in September 1943. Faint pencil lines on the wall trace how quickly Margot and especially Anne grew in hiding.

Around the corner from Anne and Fritz's bedroom is the annex's bath-

ALLARD BOVENBERG/ANNE FRANK HOUSE (2)

Fritz Pfeffer often locked himself in the bathroom, Anne wrote, leaving others "hopping from foot to foot trying to hold it in."

In the room where Anne displayed her sizable collection of movie star images, many of the nearly one million annual visitors weep.

room, a source of frequent friction among the residents. At certain times of the day, particularly when the warehousemen below might hear them, absolute silence reigned. "No running water, no flushing toilet, no walking around, no noise whatsoever," she writes. In the evenings and on weekends, the residents slipped out of the stifling annex into the empty building. Apart from dancing and calisthenics, Anne and Margot took turns bathing in a wooden tub in the darkened front office overlooking the canal.

The room that served as combination kitchen, common room and the Van Pelses' bedroom is on the fourth floor. Next door is the tiny room beneath the annex attic stairs where 17-year-old Peter gave Anne, then nearly 15, her first kiss, in April 1944. By then, Anne's resilient optimism was ebbing away. Though she continued to maintain that "I still believe that people are really good at heart," she soon writes that "I see the world gradually being turned into a wilderness."

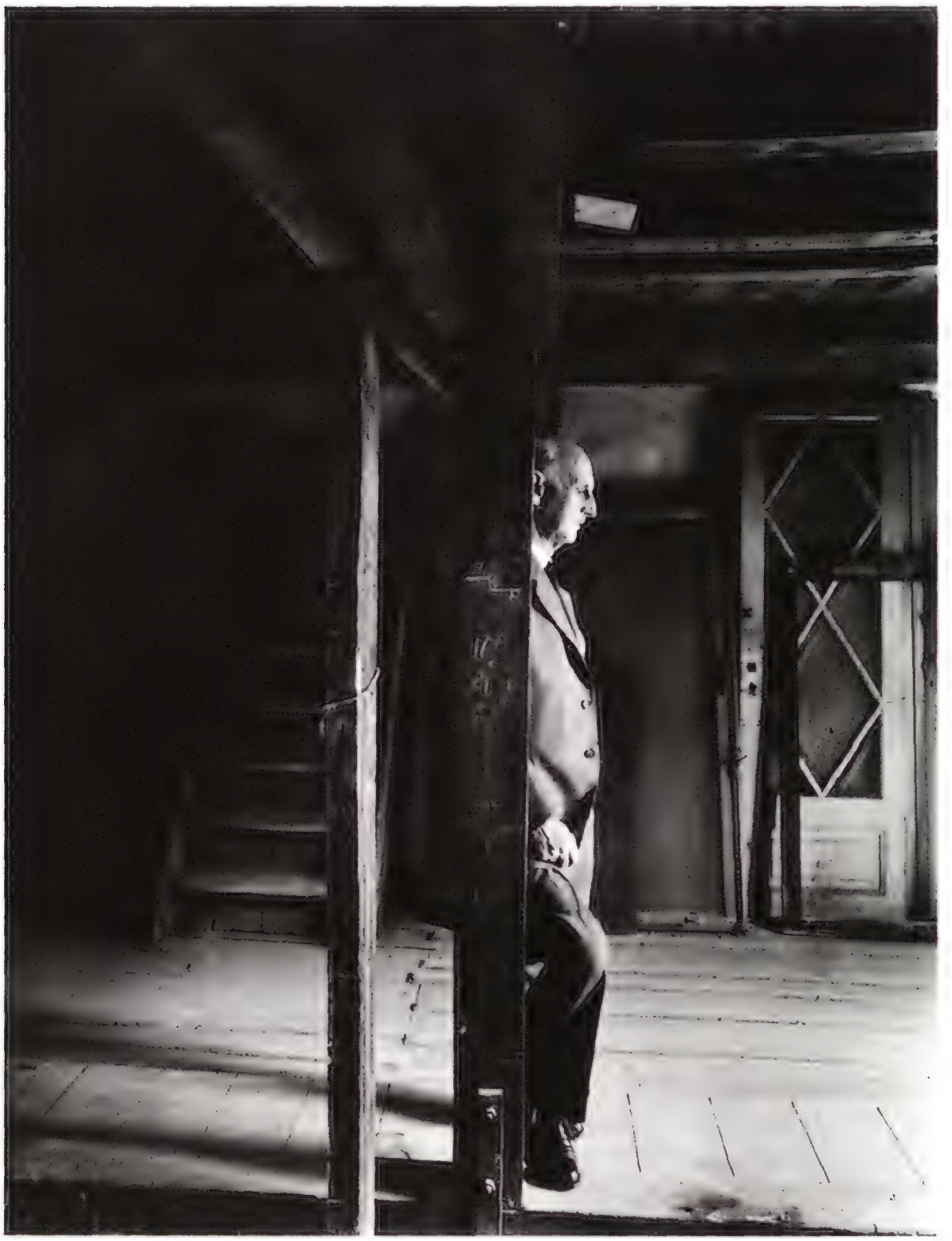
Less than four months after Anne's chaste kiss with Peter, someone tipped-off the Nazis. After being arrested and hustled away to a local prison, the eight residents were transported to Westerbork, a transit camp in northeastern Holland. In September 1944, the eight were herded onto the last train from Westerbork to Auschwitz. Despite two investigations following the war, just who betrayed them remains a mystery.

In the front attic, where Anne and Peter sought refuge from the prying eyes of their parents, the faded red plaid diary is on display alongside a telling quote from it: "To be a person, you must have flair." It could serve as Anne's epitaph. The diary has undergone numerous adaptations, beginning with a Pulitzer Prize-winning Broadway play in 1955. A Hollywood film, starring Millie Perkins as Anne and Shelley Winters in an Oscar-winning role as Mrs. Van Daan, the pseudonym Anne gave Auguste van Pels, followed in 1959. Last May, a TV adaptation aired on ABC, and a remake of George Stevens' 1959 film is currently under way.

It was a miracle the diary was published at all. After the arrest, a grieving Miep Gies gathered it up along with the schoolbooks and loose sheets of Anne's revised version off the annex floor and locked them away unread in her desk drawer. After Otto returned to Amsterdam on June 3, 1945, and the Red Cross informed him that Edith, Anne and Margot had died, Gies gave Otto the diary. Though he thought he knew his daughter, Otto was astounded by the depth of her thought. Drawing on both the first version of the diary and the revised pages, he typed up a manuscript that was largely faithful to Anne's text, omitting some of the more stinging criticisms of her mother, and reinstating passages she had cut about her infatuation with Peter. Friends were so moved by the manuscript that they urged Otto to find a publisher. A sympathetic historian gave the manuscript a glowing account in a local newspaper, prompting a Dutch publisher to publish the book in June 1947. It was an immediate sensation. Although German and French editions followed, the diary encountered rejections in the United States. One publisher confidently wrote Otto, "I do not believe that there will be enough interest in the subject" to make a profit. But when an impressed

ALLARD BOVENBERG/ANNE FRANK HOUSE; AKG PHOTO

"To be a person, you must have flair."



Of the eight annex residents, only Otto Frank (revisiting the house the day it opened as a museum on May 3, 1960) survived the death camps. He died in 1980, at age 91.

Eleanor Roosevelt wrote an introduction to Doubleday's 1952 edition, it went through three printings.

Otto Frank bequeathed Anne's writings to the Netherlands State Institute for War Documentation. Last spring an updated Dutch edition was published, and an English edition is in the works. It reinstates the five pages that Otto cut from the original, including Anne's speculation that a premarital love affair with someone else kept her father from truly loving her mother. "Ultimately, the additional pages don't change much because Anne shows throughout the whole book that she loves her Daddy very much and dislikes her mother," says David Barnouw, editor of the new edition.

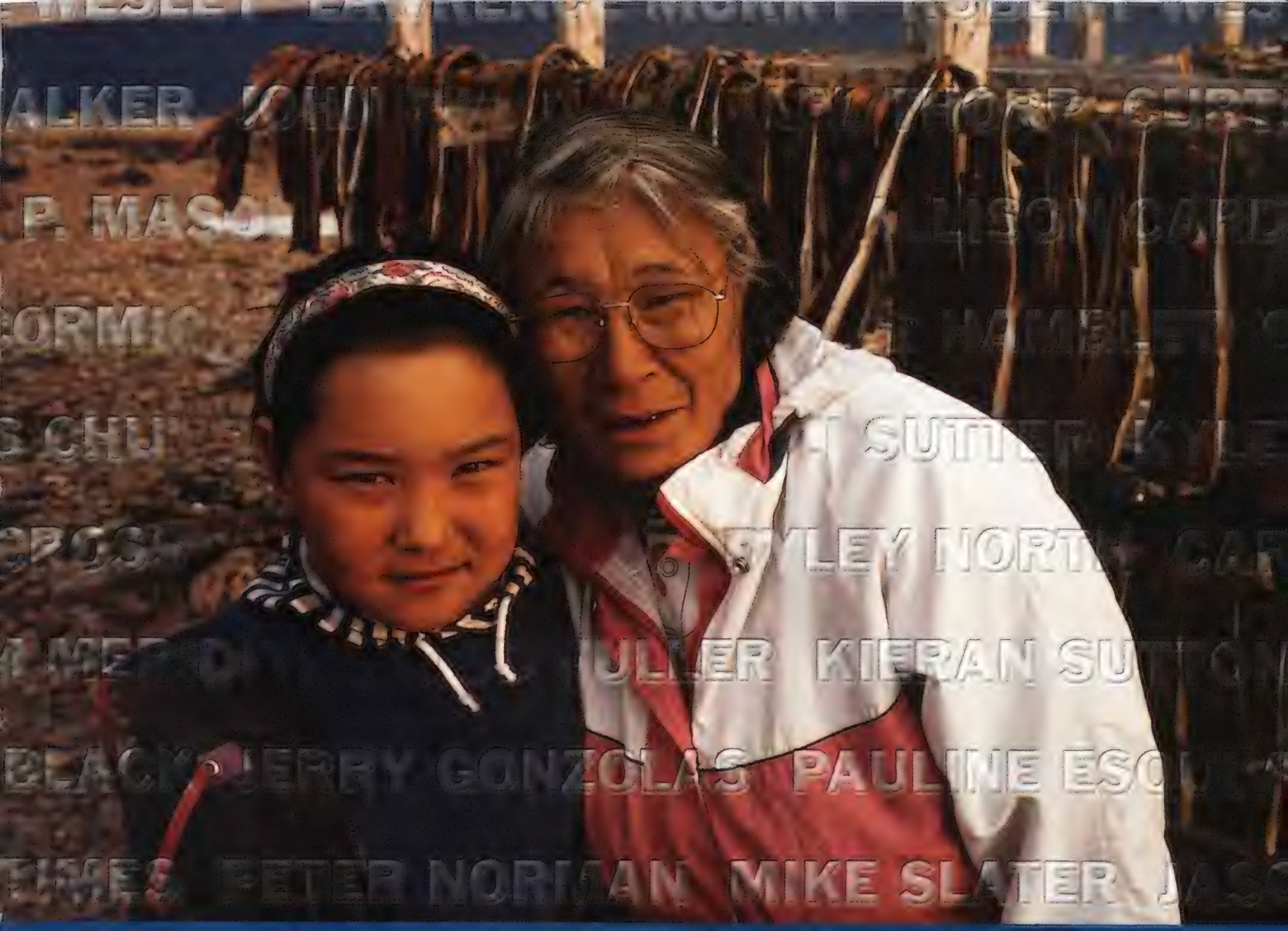
"I see Anne's diary as a kind of testament, as a positive factor against racism and anti-Semitism and for a higher level of tolerance," Otto explains in an interview for the museum video. These days, the Anne Frank House staff of 100 monitors racial attacks and tracks Web sites spouting neo-Nazi propaganda. *Anne Frank: A History for Today* and *Anne Frank in the World*, ongoing traveling exhibitions about Anne's life in hiding and the groundbreaking outreach programs of the Anne Frank House, have so far visited a staggering 900 cities in 42 countries.

Despite the overwhelming mass of evidence documenting the Holocaust, the number of extreme right-wing groups and anti-Semitic Web sites that continue to deny that it happened is growing. Anne Frank's diary is a prime target. If the diary is a forgery, claim these hate groups, then the Holocaust is nothing more than a myth.

Typically, the revisionists maintain that it was Otto, not Anne, who wrote the diary and that he wrote it after the war. In 1981 a Dutch government laboratory carried out a painstakingly thorough analysis of the diary's handwriting, ink, paper and glue and confirmed that it was genuine. As recently as last year, the Anne Frank House was fighting to block a Belgian group from distributing pamphlets that brand the diary a hoax. "We won that battle and will continue to be very firm in opposing groups that challenge the diary's authenticity," Westra insists. In this determined plea for tolerance, I heard the echo of Anne Frank. "Surely the time will come when we are people again, and not just Jews," she wrote in April 1944. "We can never become just Dutch, or just English, or representatives of any country for that matter, we will always be Jews as well. But then we'll want to be."

Richard Covington wrote about the Versailles gardens in the July 2001 SMITHSONIAN.

ARNOLD NEWMAN/GETTY IMAGES



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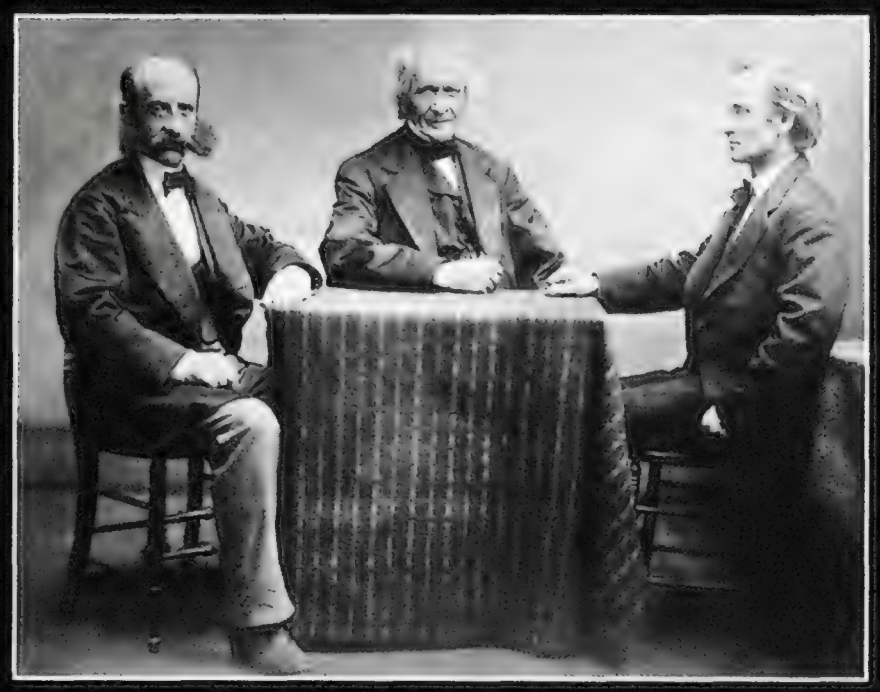
STARS IN THEIR EYES

THE EXQUISITE TELESCOPES CRAFTED BY ALVAN CLARK AND HIS SONS HELPED MAKE THE LAST HALF OF THE 19TH CENTURY A GOLDEN AGE OF ASTRONOMY ◆ BY MICHAEL TENNESEN

ASTRONOMER KYLE CUDWORTH ENTERS THE great dome of the Yerkes Observatory in Williams Bay, Wisconsin, an hour after sunset. A storm blew through these rolling hills last night and another is on its way. Cudworth wants to use this brief window of clear skies to take a look through the great 40-inch Clark refracting telescope.

The dome looks like a cathedral. In the middle of the cavernous room, balanced on a giant metal pier, is the telescope. It is 63 feet long with a light-gathering power about 30,000 times that of the unaided eye. The telescope looks regal, as well it should, this aged but elegant former king of astronomy.

Cudworth runs around the dome, unlocking



The Clark factory in Cambridge, Massachusetts (opposite, top left), boasted a tall telescope tube and mount that Alvan Clark (above, center, with sons Alvan Graham, left, and George Bassett, c. 1880) used to test the lenses he made. It was Alvan Graham, with his father at his side, who discovered the faint companion to Sirius, the brightest star in the sky.

The 36-inch refracting telescope at Lick Observatory—getting a polish from astronomer Remington Stone—had its Clark-crafted lenses refigured in 1987, after a century of use.

doors on all sides so the temperature inside will match that outside. Unless he does so, heat waves, escaping the room, could distort the viewing. The room temperature quickly drops to 15 degrees Fahrenheit. Modern astronomers have warm control rooms; earlier astronomers had wool.

The telescope and the moving parts of the mount weigh 20 tons. Yet the telescope is balanced so well that Cudworth has no trouble moving it by hand. He turns some dials attached to the mount, then steps back and says, "Take a look."

I walk across a floor where Albert Einstein and Edwin Hubble once walked. Through the eyepiece I see M15, a globular star cluster that orbits our galaxy. The weather sends waves of turbulence in front of the lens, but in brief spaces of stillness, I see the stars bunched together.

I am looking through the end of an era in astronomy: the largest of the great refracting telescopes. From 1610, when Galileo first observed Jupiter and four of its moons through a telescope, until after this one was completed in 1897, refractors were thought to be best for astronomical research. They pass light through a set of lenses to focus it, and look like what we think of as the classic telescope. Reflector telescopes—the kind more often used today—are shaped more like barrels and use mirrors to focus light.

Though the refractor has been eclipsed for research use, not so the reputation of the largest lens makers, Alvan Clark & Sons of Cambridge, Massachusetts. For the last half of the 19th century, their instruments dominated astronomy. Five times the Clarks made the lenses for the largest refracting telescopes in the world, often breaking their own records. Through the lenses of the Yerkes instrument, in 1951, astronomers discovered the spiral arms of our own galaxy.

Astronomers looking through Clark telescopes also discovered the moons of Mars (U.S. Naval Observatory, 1877) and the fifth moon of Jupiter (Lick Observatory, 1892), and found that other galaxies are moving away from us, the first evidence of an expanding universe (Lowell Observatory, 1912).

The Clark family was uniquely suited to its craft. Alvan Clark's sense of touch was so precise that he could feel a lens and find imperfections not visible to the naked eye. For its final polish he used his bare thumbs. Only then, he felt, might he detect the finest particles of grit.

Astronomers appreciated his dedication and that of his firm. In 1892 astronomer George Ellery Hale persuaded Chicago railroad and streetcar financier Charles T. Yerkes to build an observatory that would bear his name and to commission the Clark 40-inch refractor. Meanwhile, Hale went out and rounded up some of the best astronomers of the day, with the promise of that telescope as bait.

Today more than 100 years old, it is still used for research. Cudworth takes out one of the original glass photographic plates of M15, the globular star cluster we've just been viewing. The date of the photograph is 1916. He lays a recent negative over the plate, and we see how various stars have moved in the past 85 years. He says that having a photographic record taken through the same telescope is invaluable. "The comparison gives us a couple of things,"

LAURIE HATCH; P. 78 SCIENTIFIC AMERICAN, VOL. 48 (1883); MARY LEA SHANE ARCHIVES/LICK OBSERVATORY; UNDERWOOD & UNDERWOOD/CORBIS; CORBIS; P. 79 MARY LEA SHANE ARCHIVES/LICK OBSERVATORY

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The Clarks made more than 400 smaller telescopes. Collectors such as engineer John Briggs (with an 1884 six-inch) consider them the most elegant.

says Cudworth. "It shows us which stars are actually a part of the cluster and which are not. And it shows us the movement of the stars within the cluster."

ALVAN CLARK WAS BORN IN 1804 IN ASHFIELD, MASSAchusetts. As a young man, he worked as an engraver, producing patterns on the cylinders used to print textiles. In 1836 he gave up engraving and turned his attention to painting portraits and miniatures. He was known for exquisite detail. He moved his wife, two sons and two daughters to Cambridge and opened a studio in Boston. His reputation as a painter was substantial, and he has several pieces in major collections, including the Smithsonian's.

The Clarks' first telescope was built in 1844 when eldest son, George, brought home a broken dinner bell from his prep school, Phillips Academy in Andover, and melted the metal down to make a mirror for a reflecting telescope. George's father joined in and soon had a new hobby.

Clark Sr.'s obsession with telescopes grew, and two years later he abandoned reflectors and started making lenses for refractors. His eye was remarkable. When he visited Harvard to look through their 15-inch telescope, he noted imperfections in the lenses. Learning that the lenses had cost the school $12,000, Clark decided to get into the business. He felt he could do better.

His two sons would end up helping immeasurably. George Bassett, a retiring sort, was drawn to mechanical work and managing the business; the younger son, Alvan Graham, was an optician and, also like his father, a born salesman.

In those days American telescope makers were taking a backseat to Europeans. But the elder Clark struck up a friendship with English astronomer William Dawes, whose interest was double stars. (Scientists currently believe that about two-thirds of all stars have a companion.) In letters to Dawes, Clark told him about various double stars that the Englishman couldn't distinguish with his telescope. Soon Dawes was ordering Clark's telescopes and introducing him to European astronomers. Americans began knocking on his door as well.

Astronomy was then an important part of the popular culture. In the second half of the 19th century, rich industrialists were endowing college campuses with observatories bearing their names. Harvard, West Point, Princeton, Cornell and Columbia all purchased Clark telescopes. "America was proud of this upstart American firm, which, with no background or training, made the largest and best telescopes in the world," says Deborah Jean Warner, curator at the National Museum of American History and coauthor of *Alvan Clark and Sons, Artists in Optics.*

The first of the firm's big telescopes was an 18½-inch, the largest refractor ever made until that time, now at Dearborn Observatory at Northwestern University, Chicago. After completing that telescope in 1864, the Clarks continued setting records for large lenses. In 1873 they made the 26-inch refractor for the U.S. Naval Observatory in Washington, D.C. They bested that in 1883 with 30-inch lenses for the Imperial Russian Observatory at Pulkowa, and in 1887 with 36-inch lenses for the Lick Observatory at Mount Hamilton, California. In 1897 they completed the 40-inch lenses for the Yerkes Observatory.

Though the larger telescopes captured most of the attention, the company's smaller telescopes were its bread and butter, made for clients ranging from schools to wealthy hobbyists and astronomy clubs.

At his home in southern New Mexico, John W. Briggs, president of the Antique Telescope Society and an astronomical engineer at the National Solar Observatory nearby, shows off a five-inch Clark refractor from his private collection. The telescope was built for the much-anticipated

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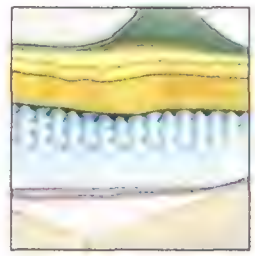

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transit of Venus of 1874, when that planet moved across the face of the Sun. Briggs beams as he points out the fine detail in this instrument. The telescope and much of its mount are made of shiny brass. The movement of the scope is flawlessly fluid. Tiny fractions of a degree are finely engraved in silver on the setting circles, which, like a mariner's sextant, allow astronomers to point a telescope at celestial objects with great precision.

The Clarks' assistant, Carl Lundin (right, with Alvan Graham in the 1890s) would keep the shop going for 30 more years after the Clarks had all died.

It was only in 1860, with the order for their first large refractor, that Alvan Clark finally gave up his portrait studio and started making telescopes full-time. He and his sons bought an acre and a half near the Charles River in Cambridge, and built homes for their families, an observatory and a modest two-story brick workshop.

Rough grinding, on a horizontal turntable powered by steam, was accomplished with emery or cast-iron sand. Then the Clarks polished a lens with rouge embedded in pitch. After the polish, they went searching for tiny imperfections in the lens, which they marked with red powder, then painstakingly corrected with cloth or thumb.

Alvan and Alvan Graham were the principal opticians for the factory, and George Bassett, the principal machinist. When around 1880, George's health began to decline, the Clarks started to pass the construction of the mounts and tubes for large lenses to others. The dome, mount and tube for the 36-inch lenses at Lick Observatory, which overlooks San Francisco Bay, were contracted to Warner & Swasey of Cleveland, Ohio.

For three days after the 36-inch telescope was first installed on December 31, 1887, Northern California was hit by one of the worst storms in decades. But on the fourth night, the sky cleared. Though ice had frozen the dome in its tracks, the astronomers decided to see what they could see. But when the star Aldebaran appeared, they found to their horror that the telescope wouldn't focus. The eyepiece holder was too long. They had to saw six inches off the tube to see the star clearly.

When I visit the Lick Observatory at Mount Hamilton, a fog forms around the hill as dusk approaches. After about an hour, a clear sky emerges. Remington Stone, director of Mount Hamilton operations, says he can't open the dome's shutters for the Clark telescope when the humidity is high, as it is now. "It could damage the glass."

After an hour, Stone and I go outside and climb the stairs to the dome to check its surface. It's dry. Stone looks at the advancing clouds. "If we are going to do it, we'd better do it quick," he says.

We go back inside. Stone moves the scope by hand before motors turn the dome and open its shutter door. At first, all we see is a cloudy sky, but after a moment the cloud cover breaks. Stone uses the finder to look in on Saturn. "Quick," he says, "before the clouds reappear."

The light is dazzling, almost like staring right into a flashlight. My eye adjusts to the brilliance, and I study the gaps in the rings. I see detail I have never seen before. Next we look at Jupiter. I see a multitude of patterns in the swirling clouds on the surface. We stare, speechless, for about 20 minutes before the clouds roll in again.

ALVAN CLARK DIED IN 1887 AT THE AGE OF 83, GEORGE four years later at age 64. Alvan Graham followed in 1897 at age 65, just a few months after the installation of the 40-inch at the Yerkes Observatory.

In Cambridge, one can find a few scattered plaques about Alvan Clark and his sons. But the real monuments to their craftsmanship are the telescopes they made, many of which are still used more than 100 years later.

It had been a rarefied world. In 1916 George C. Blakslee was interviewed for the job of staff photographer at Yerkes, where the Clark 40-inch was still the primary research telescope. "This job, I see, must be accurate to a hair's breadth," said Blakslee. "No sir, no sir," said the interviewer. And then after a long pause for his contradiction to soak in, he leaned forward, tapped Blakslee on the shoulder, and added, "To a half a hair's breadth."

Writer and amateur astronomer Michael Tennesen says his late father, a machinist, taught him to appreciate fine craftsmanship.

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INTRODUCED AS A TOY
NEARLY A CENTURY AGO,
THE EVER POPULAR
TEDDY BEAR HAS BECOME
A PRIZED COLLECTIBLE
THE WORLD OVER

Crazy for Bears

BY WENDY MITMAN CLARKE

THE DAY MY TEDDY BEAR WAS LOST, MY DAD WAS carrying me along a Susquehanna River walkway in Sunbury, Pennsylvania. Since Dad was having a hard time lugging both me and my bear, he tucked it into a bed of leaves at the foot of some steps climbing over the sand-colored wall separating the river from the town. And when we came back, the bear was gone.

I cried for a week. I suspect my mother did not speak to my father for at least as long. Not his fault, really, but moms often hold dads accountable for fortune, good or bad. As it happened, this bear had belonged to my grandmother's

sister and had lived through the Great Depression, two world wars and *Sputnik*. And, of course, he was *my* teddy.

Eventually Mom got me another one, a fine Steiff bear with a red ribbon. I never really liked him. He looked too stern and, well, rather Prussian. Yet there he sits on my dresser to this day—puberty, high school, college, one marriage, five dogs and two kids later.

Such is the power of the teddy bear. Next year will mark the 100th anniversary of the political cartoon that sparked its creation, following a bungled hunting expedition by Teddy Roosevelt. For nearly a century, the teddy bear has been a part of our culture and our lives. Today, teddies are more popular than ever, and adults seem to want them as much as their kids do.

Talk about a bear market. Vintage teddies command prices well into six figures at auction houses such as Christie's South Kensington, in London, which holds two sales a year dedicated exclusively to teddy bears. Collectors travel the world to attend bear shows and sales. Next June, thousands will descend upon Washington, D.C. to visit the Smithsonian's Teddy Bear Centennial Celebration, many wearing bear hats, shirts and even ears. Museums dedicated to teddy bears are popping up in Japan and Korea. Teddies are used in hospice care, nursing homes, hospitals, women's shelters and by police officers, firefighters and paramedics to help young and old cope with pain, loss, fear and even death. Perhaps in a world of genetic engineering and school shootings, of head-banging WrestleMania, road rage and retro-metal music, the simple, silent comfort of a soft bear tucked in your lap or gazing from your bookshelf is more necessary than ever.

It was November 1902 when President Theodore Roosevelt went south to settle a border dispute between Mississippi and Louisiana. Ever the sportsman, he managed to take a break to hunt bear with some local bigwigs near Smedes, Mississippi. Guides used bear hounds to track the quarry, and the hunters followed on horseback. The man running the dog pack that day was Holt Collier, who, born a slave, had served as a sharpshooter for the Confederacy during the Civil War.

Teddy Roosevelt (hunting in 1905) was delighted when a cute revision of a political cartoon gave rise to the teddy bear.

According to press reports, Collier's dogs had been tracking a bear for hours. Rather than have the President crash through the brush, Collier directed Roosevelt and a companion to take a shortcut and wait at a clearing for the animal to appear. Roosevelt thought it a bully idea until, finally, he gave up and headed back to camp. Soon after, the bear emerged at the clearing and, exhausted, turned and faced the dogs. The bear crushed one dog's spine, and before it could kill another, Collier brained the cornered beast with his rifle butt. He then blew a horn signaling the quarry was at bay and tied the addled bear to a tree. A messenger was sent, and Roosevelt dashed back from camp. Deeming it unsportsmanlike to shoot the worn-out, groggy creature, Roosevelt ordered a Mr. Parker to "put it out of its misery," which he did with a knife.

A *Washington Post* cartoon by Clifford Berryman that appeared two days later depicted Roosevelt seeming to push away the very thought of killing the bear. Straining against the rope around its neck, the bear looks somewhere between scared and angry.

In a subsequent Berryman rendering, the bear appears smaller, cuter and more vulnerable, and from then on, the bright-eyed, adorable cub became a fixture in Berryman's work, turning up in cartoons of Roosevelt addressing everything from tariffs to reelection campaigns. It became such a political icon that Roosevelt's successor, William H.

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When toymaker Otto Steiff's family showed off their teddies in 1958, company founder Margarete Steiff (in portrait) held her own.

Taft, tried to duplicate its popularity with, of all things, a possum. But "Billy Possum" never caught on despite the best efforts of the press and even toymakers to push the idea.

To this day, the question of who actually created the first teddy bear is still debated. Was it Morris Michtom, who founded the highly successful Ideal Novelty and Toy Company in New York around 1903 upon the teddy bears he produced? Or was it Richard Steiff, who at nearly the same time was showing a new jointed bear at the Leipzig Toy Fair?

Apparently Michtom saw Berryman's cartoon, was struck with the idea of making a small bear and had his wife, Rose, stitch one up. According to family history, Michtom then wrote to Roosevelt himself, asking for permission to use his nickname for the new bears. Roosevelt agreed. Alas, no such correspondence has ever surfaced, says Larry Bird, curator of the Smithsonian's Political Campaign Collection at the National Museum of American History, which exhibits an early Ideal bear that Michtom's son gave to Theodore's last remaining grandson, Kermit, in 1963. Then there's the venerable Steiff company, founded in 1880 by Margarete Steiff, Richard's aunt, in Giengen on the Brenz, Germany. "Steiff kept very good records, and they usually kept one of whatever they made," says Daniel Agnew, head of the Teddy Bears, Toy Soldiers and Dolls Department of Christie's South Kensington. "Richard Steiff made three prototypes in 1905 and Steiff has them still."

Regardless of who was first, the teddy bear became a national obsession. In 1903, Steiff produced 12,000 bears. By 1908, the company was making nearly a million annually. Teddy manufacturers mushroomed. Bears came with every imaginable gimmick: eyes that lit up when you shook a paw; teddies that played Strauss when you turned a crank in their back; a bear that, when you squeezed its stomach, laughed to reveal teeth; even a bear that emerged when you flipped a doll over and pushed up its skirts. Textbook writer Seymour Eaton, under the pseudonym Paul Piper, wrote a rollicking poem called "The Roosevelt Bears" that appeared each week in newspapers around the country and followed the antics of "Teddy-B and Teddy-G."

The children clapped and stamped their feet
And waved their hands and stood on chairs
And cried "Hurrah for The Roosevelt Bears!"

Eaton also published a series of books about the bears. "Teddy bears are all the rage," read an ad in the 1908 Sears, Roebuck catalog. "The best plaything ever invented."

Outside the colorful buildings of the Vermont Teddy Bear Company in Shelburne, near Lake Champlain, the March sky looks gray and forbidding. Inside, Kathleen Straube, director of product development, pops the sound track to *Get Shorty* into a CD player and calls the quarterly design session to order in an area known affectionately as Camp Bear Paw. As low-key funk permeates the room, a small group of staffers gathers around a huge wooden table, upon which tools of the teddy bear trade are scattered: a red tomato pincushion, masking tape, scissors, glue, a tall green spool of thread, dyes, a tape measure. On one side of the table, fur samples of various hues and textures—neon green, curly pink, caramel mohair—hang on a wooden rack. Bears of all kinds—plaid bears, fuzzy bears, Viking bears—perch on every available surface. I feel I'm being watched.

Today's task is to toss out ideas, good, bad and ridiculous, for bear designs for Easter, Mother's Day and graduation. "How about a bear with a hood with curlers on it and fuzzy slippers and a robe?" says Mike Randall, whose job is to "personalize" bears. "We could call it 'the Honeymoon's Over, Mom.'"

Renee McGuinness, who is in charge of getting materials, suggests a "mom bear with eyes in the back of her head." "How about a French maid mom?" someone else offers. "Trophy mom!"

A laughing Straube dutifully scribbles every idea onto a

MICHAEL ROUGIER/TIMEPIX

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A quartet of teddies will debut on postage stamps due out next year.

flip chart. Of the 50 or so that emerge from this session, only 5 or 6 will actually grow into bears.

Although the company specializes in lightheartedness—it ships each bear in a container complete with airholes and a delicious candy treat, in case the critter gets hungry on the trip—it's a big business. Revenues of $33 million generated a profit of $21 million last year.

Most of Vermont Teddy's customers are men sending Bear-Grams. These are bears you mail to your truelove on Valentine's Day, to your sick mother-in-law, to your sister who just had a baby. "Counselors" help you choose from more than 100 different designs, among them the Gangster of Love (with a black pinstriped vest, black fedora, black violin case and red rose) and the Blue Without You Bear (blue fur, velvet bow tie). Customized Bear-Grams can cost up to $300 apiece.

Real bears have to contend with hunters and habitat loss, but there's no sign teddies will ever be endangered. "They're currently one of the leading classifications in stuffed animals," says Claudia Sandoval, vice president and a senior buyer at FAO Schwartz.

Mindy Kinsey, editor of *Teddy Bear and Friends*, a magazine with 42,000 readers, says she has heard "there are anywhere from three to ten million teddy bear collectors and that it's a billion-dollar industry, but no one knows where the 'b' is coming from." According to Daniel Agnew of Christie's, "The whole business has grown over the last ten years by 70 to 80 percent. If you look through the magazines, there's always an ad for some limited edition, and you go into a gift shop and there are teddy bear aprons and teddy bear mugs and teddy bear this and teddy bear that."

And while teddies have long been boffo in England and Germany, now countries like Japan and Korea are getting bearish. In 1997, the Huis Ten Bosch resort in Nagasaki, Japan, opened the Teddy Bear Kingdom—a 1,300-square-foot replica of a medieval castle with 1,500 vintage and new bears. This year, J.S. International chairman Jesse Kim, who paid $193,477 for a one-of-a-kind contemporary Steiff bear at a charity auction, opened the JeJu Teddy Bear Museum in Korea. The Teddy Bear Museum in Naples, Florida—one of the first such museums in America—displays about 5,000 teddies from all over the world. Last spring, some 540 exhibitors attended what's likely the biggest annual teddy bear show anywhere, in Hennef, Germany, and as many as 16,000 collectors visited it over two days.

Limited editions of bears made by Beverly White (in her Pennsylvania studio) often sell out before she can finish them.

A line has already formed outside the entrance to the exhibition hall at the state fairgrounds in Timonium, Maryland, the morning of the Teddy Bear Spring Fling. Most of those waiting to visit some 74 booths are adults, and women are a slight majority. Some are holding their own teddy bears, others wear bear jewelry and carry bear handbags. Among the exhibitors is Barbara Lauver, who's been buying and selling antique teddy bears for 20 years and owns a business called Harper General Store, in Annville, Pennsylvania. She's showing some vintage Steiffs priced from under $1,000 to $18,000. Another booth is dedicated to the group Good Bears of the World, a 3,000-member organization that, through various "dens" across the country, distributes teddies to nursing homes, police departments and other agencies.

But the vast majority of exhibitors are interested in the teddy bear as an art form. Since the late 1970s, a generation of "bear artists" has taken tired old teddy to a new level. Art bears are nearly always hand-sewn, one-of-a-kind or limited-edition pieces. They're as varied and creative as the artists themselves—huggable, droopy-limbed bears, minutely detailed mohair miniatures no bigger than thimbles (which can go for $300 and more), bears dressed as hobos, angel bears, clown bears, biblical bears, quizzical bears, shy bears, bears of every character, shape and expression.

Beverly White of Downingtown, Pennsylvania, was one of the first bear artists, specializing in portrait bears that

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THE ART *of* PERFORMANCE

Most bear enthusiasts (like Carol and Larry Steed at their home near Pennsylvania's Pocono Mountains) collect to keep, not to sell.

look remarkably like their subjects, among them Laurel and Hardy, W. C. Fields, Teddy Roosevelt (of course!), even the Mona Lisa and Mahatma Gandhi. Her limited editions (no more than 25) sell for $5,000 apiece, and there's a waiting list. At auction, White's bears have commanded as much as $20,500. "I just found a niche," she says.

If the mainstream art world isn't banging down the bear artists' doors, a tight-knit community of collectors are. Most don't collect to sell; they collect to keep. And most can't tell you how much their collection is worth. "We have at least 700 bears now," says Carol Steed of eastern Pennsylvania. A physical therapist, she started collecting about 15 years ago when her husband, Larry, first bought her some bears designed by Beverly Port, considered by many the First Lady of bear artists. Back in 1985, Port's bears cost about $125 to $175 each. Today, a set of five, in mint condition, is worth at least $5,000.

How did it come to this? How has a single toy eluded the boundaries of age, gender, nationality, culture and religion for a hundred years? What makes people hold on to their teddy bears, loved to within a millimeter of their nap, for lifetimes? For that matter, why does that old replacement bear of mine still sit on my bureau, stern as ever but among the few possessions I know I'll pass on to my own children? Obviously, there is no simple answer. The teddy bear began as a child's toy, something to comfort and please the innocent. That bear was often our confidante, our best friend, the buddy who kept us safe during the squalls of youth. Along with our dads' strong arms carrying us places, there wasn't anything in the world much better than that.

Wendy Mitman Clarke writes often about popular culture. Her last piece for SMITHSONIAN *was "Moving Big Stuff" (January 2000).*

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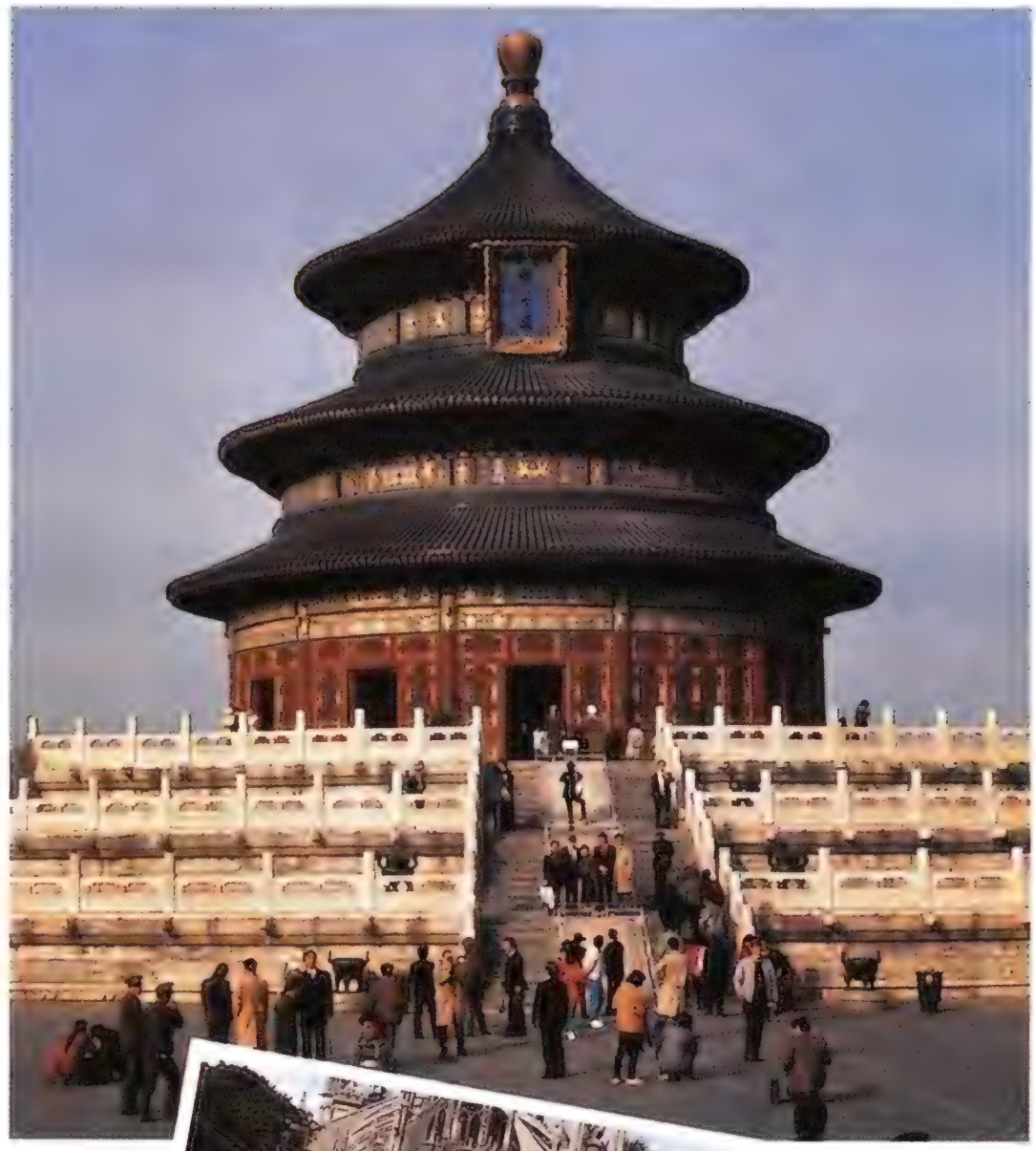

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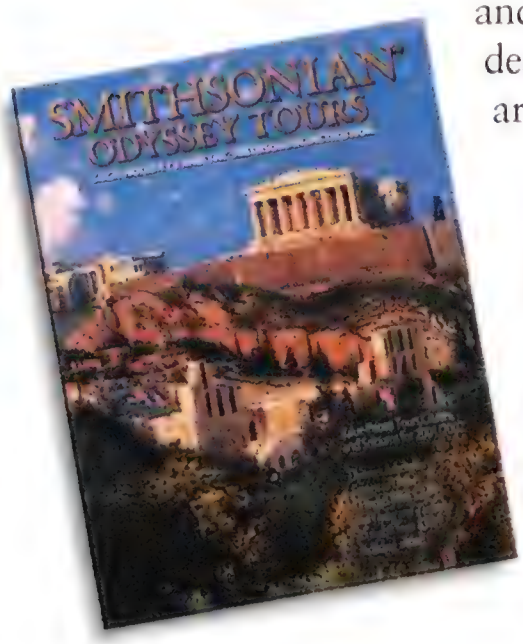
Inset: Tour manager Bob Shore discusses the architecture of Nôtre Dame Cathedral with Smithsonian Associates



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monkey wrench

An American couple's ingenious research challenges the popular notion that baboons and other monkeys are almost human

BY RICHARD CONNIFF

IT WAS MIDMORNING AT THE JACKALBERRY Café, a stand of big, branchy trees on an island in Botswana's Okavango Delta. Dorothy Cheney and Robert Seyfarth, a husband-and-wife research team, were surrounded by baboons, many of them foaming at the mouth. With their long muzzles and sinister copper eyes, the baboons looked a bit like mad dogs. But the foaming was just a side effect of eating jackalberries, which taste like chalk cut with lemon juice. The baboons had their cheeks crammed full, and their steady gnawing was about as threatening as the grinding of a pepper mill. They took no notice of the human researchers wandering among them with notebooks and a microphone.

A fight erupted in the trees overhead, and Cheney and Seyfarth started to sort out the antagonists. A high-ranking juvenile named Puncture had it in for a cousin named Palm. The two of them leaped from branch to branch, squealing and searching for allies. Puncture unwisely tried to enlist another cousin named Plimsoll. Everyone ended up on the ground, where Plimsoll groomed Palm, who happened to be his sister, the two of them feigning utter indifference to Puncture. Puncture slapped the ground in front of them and popped big-eyed threats in Palm's face. But Palm just lolled her head to one side and closed her eyes, deep in the bliss of being groomed. Puncture grabbed a branch and shook it under Palm's nose. No response. It was infuriating.

"This is like a really bad Thanksgiving dinner," said Seyfarth. "Sometimes the little cousins fight."

"Sometimes everybody fights," said Cheney.

The easy comparison to humans—anthropomorphism, that is—was odd. Other researchers have built their careers on the popular premise that monkeys and apes are almost human. Cheney and Seyfarth take the opposite view. Over the past 25 years, their ingenious experiments with vervet monkeys and baboons have sometimes revealed extraordinary richness in the monkey mind, particularly when it comes to social knowledge about one another. But more often, Cheney and Seyfarth have discovered severe limitations on intelligence and communication in monkeys. "They're not furry little humans," Seyfarth said now. "They're just monkeys."

This affront to our sentimental notions about the natural world may be a little easier to take in the context of baboons, which are ugly, unendangered and politically incorrect. "Baboon" has become synonymous with boorish male behavior, and with good reason. Males are twice the size of females and tend to do whatever they want, whenever they want, often in an egregiously offensive manner. Ba-

There are about 62 baboons per square mile in Botswana's Okavango Delta. Rarely does a female produce more than one baby at a time. It takes a young baboon (eating the fruit of a Sausage Pod tree) six years to reach sexual maturity.

PHOTOGRAPHS BY DAVE HAMMAN

Troop C travels up to seven miles a day looking for food; Cheney and Seyfarth (wading with their daughters) usually tag along.

boons can also be destructive to human interests. Farmers regard them as crop-raiding, lamb-killing vermin, so much so that in 1999 a South African development group announced plans (which were quickly abandoned in the face of international outrage) to finance a slaughterhouse specializing in, of all things, baboon salami.

Still, baboons are primates, like us. We had a common ancestor roughly 20 million years ago, when the apes (now represented by chimpanzees, bonobos, gorillas, orangutans and humans) began to diverge from the Old World monkeys (now represented by baboons, macaques, vervets and many others). Humans are, of course, much more closely related to chimpanzees; our two species diverged from a common ancestor just five or six million years ago, and chimpanzees share about 98 percent of our genetic material. But the figure for baboons is also high, about 92 percent. And yet Cheney and Seyfarth's work is a reminder that a genetic difference of just a few percentage points can translate into vast, unbridgeable gaps between species.

The Okavango Delta, where the pair do their work, is a wilderness of open grasslands and scrubby dry forest, broken up into islands by seasonal flooding. Baboon Camp, on the edge of one such island, consists of a few tents and a reed-roofed kitchen with freezer, refrigerator, a feeble gas range and an old dugout canoe hull for a countertop. Hippos sometimes graze among the tents, and when wild dogs hunt, panicky impalas can come bowling down a trail without warning. Postdoctoral students work here during the school year. Cheney and Seyfarth, who teach at the University of Pennsylvania, come out during summer breaks, with their teenage daughters Keena and Lucy.

To find the baboons known as Troop C, the researchers walk out from camp each morning, ears alert for Cape buffalo, elephants and lions. They carry no weapons, so avoidance is their only defense, and tree climbing a last resort. (Water crossings can be particularly hazardous, because crocodiles have a nasty habit of launching themselves missilelike from the bottom.) The baboons of Troop C are also aware of these dangers and tend to stick to a home range of less than three square miles. They sometimes turn up in the camp itself, where, as Keena recalled with dismay, they occasionally pluck a roosting fruit bat from a fig tree and eat it headfirst "like an ice-cream cone."

The research team can identify all 84 individuals in Troop C, usually by physical features like Gary's crooked tail or Roy's horsey muzzle, and sometimes by sound, as when Shashe gives her warbling, operatic lost call. They also know each animal by personality, a factor scientists cannot quantify, but feel deeply. Seyfarth once mentioned a domineering female named Sylvia to a predecessor at Baboon Camp, who promptly replied, "That *bitch*! What's she up to now?"

Cheney and Seyfarth use the monkeys' own vocalizations to determine what the monkeys themselves know, and it appears that the baboons also recognize one another by voice, rank, family and perhaps even personality.

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Since the 1970s, Cheney (watching a pair of adolescents grooming) and Seyfarth (recording a "yawn") have spent almost every summer break in the field.

The researchers' technique is to record a known individual giving a reconciliation grunt, a fear bark, an alarm call or some other meaningful vocalization. They play back the call to find out how other individuals in the group respond.

In a typical experiment involving the booming wa-hoo calls sounded by rival adult males, Cheney positioned herself to videotape a female while Seyfarth maneuvered a four-foot-high speaker in a wheelbarrow behind a bush. Then, on a signal from Cheney, he played the call. Cheney recorded the female's reaction to it for 15 minutes to see if the vocalization altered her behavior.

Such painstaking work has produced some intriguing results. When Cheney and Seyfarth were starting out in the 1970s, scientists generally believed that monkeys could communicate little more than distress. Using playbacks, the pair showed that vervet monkeys were in fact capable of making subtle distinctions. They rarely sounded an alarm call when they spotted a snake eagle but almost always did when they saw the far more dangerous martial eagles. Sometimes they varied the rate and intensity of their calls depending on whether relatives, potential mates or high-ranking rivals were within earshot.

Cheney and Seyfarth also found tantalizing evidence that vocalizations may sometimes work as abstract representations of ideas. For example, vervets learned to ignore a starling's eagle alarm call when it was played repeatedly without an eagle present; then Cheney and Seyfarth played the vervet's own eagle alarm, and the vervets ignored that too. Knowing one call was a false alarm meant knowing its "synonym" was false as well. But if Cheney and Seyfarth then played a starling's leopard alarm call, everybody scrambled for cover.

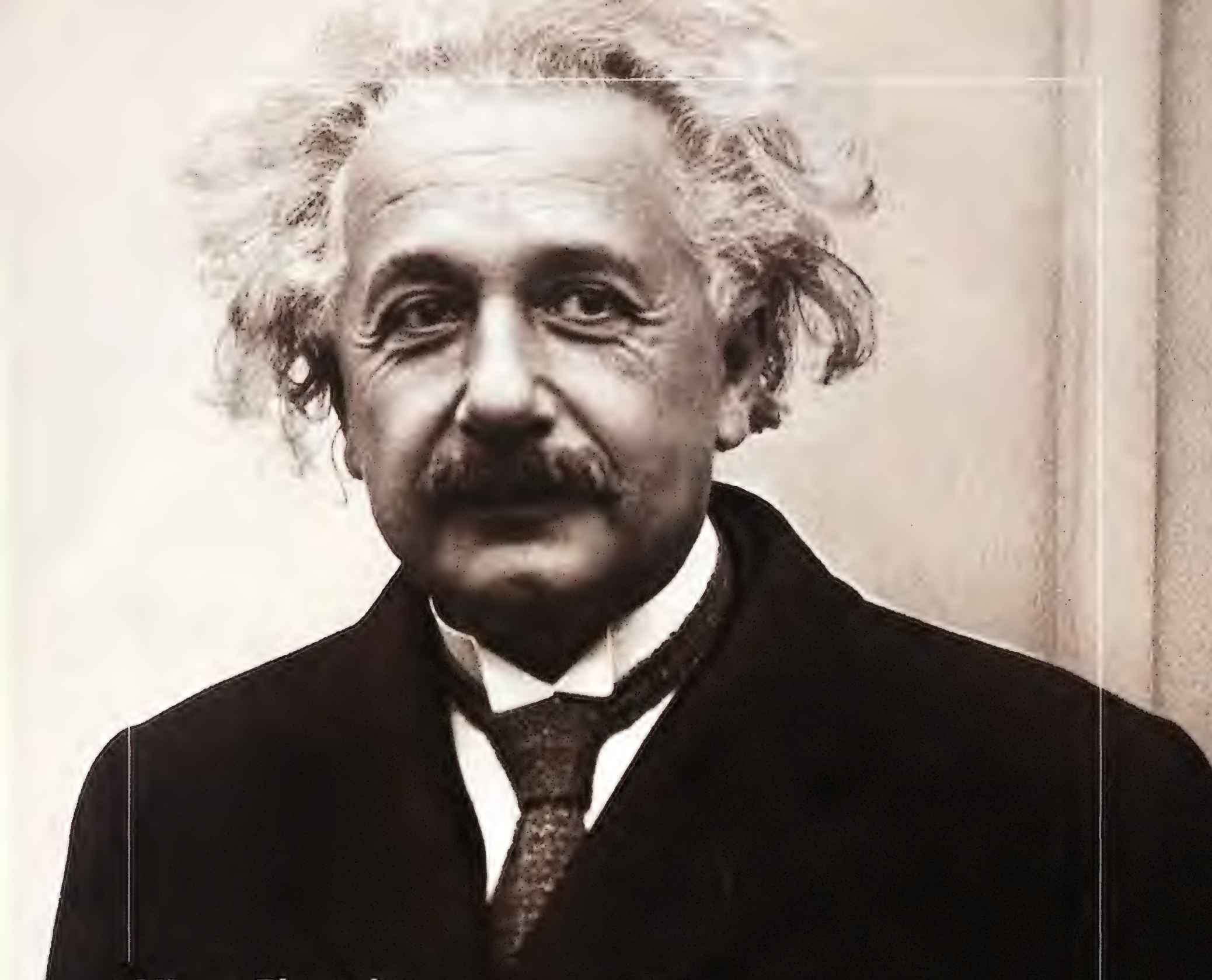
One morning out at a place called the Palm, not far from the Jackalberry Café, a couple of baboons were sitting around taking the sun, being groomed by subordinates and waiting for breakfast to fall out of the sky; another baboon, eating palm nuts at the top of a tree, now and then inadvertently shook a few to the ground. Power and Selo, the king and queen of Troop C, took the first couple of nuts. When they moved off, Sonny, the number two male, slipped into their place. Sonny threatened Gary with a sharp lifting of the eyebrows. Gary immediately saved face by passing the threat on down the line to a hapless juvenile. Watching the males jockey for position, you got the impression that baboon social life is largely about what kind of trouble the big boys are up to now.

In fact, females are the stable element in baboon society. They stay with the troop throughout their 20- or 30-year life spans, and mothers tend to pass on social status to their daughters. For instance, Sylvia and Selo, two sisters with beady eyes and imperious leonine strides, belong to a female line that has dominated Troop C for more than 20 years.

Males, on the other hand, move out into neighboring troops when they reach maturity. There, if a newcomer has promise, he may eventually challenge the local alpha male with wa-hoo contests and physical force. The new alpha does his best to kill any unweaned infants in the troop, as a way of bringing the mothers back into reproductive condition so that future kids will be his. The alpha also tries to monopolize mating with any female who comes into season. Cheney at one point summed up the paths of male glory this way: "Run wild, kill babies, you're there."

But the social lives of baboons are more subtle than that. Once you know the individuals and their family histories, the dull round of jackalberry and palm nut feasting opens up like a plotline for a novel. Or, as Cheney puts it: "The rules with baboons are the same as in a Jane Austen novel—maintain close ties with your relatives and try to get in with high-ranking animals."

For the moment, Troop C was a dysfunctional family,



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When Seyfarth (on location with a speaker in a marsh) plays back a recorded call, the caller's status influences how other baboons respond.

even by baboon standards. The baboon named Power had somehow managed to become the alpha male without ever leaving home, and he didn't know quite how to behave. When Selo developed the swollen red rump that advertises sexual fertility, Power hung out with her. But nothing much happened. "He's only got half the story," said Cheney. The two of them sat around together chewing palm nuts and wondering, perhaps, if that's all there was to love. Like humans, baboons have inhibitions against incest; growing up together had apparently chilled any romantic chemistry between them. Cheney and Seyfarth were hoping Sonny, an outsider, would work up the nerve to overthrow Power and make things a bit more interesting. "Come on, Sonny, bust a move," their daughter Keena urged.

"It's like sitting in an Italian café nursing a glass of wine, and seeing the teenagers and the young adults coming and going," said Seyfarth, "each with a complex story." Sometimes someone slipped away to avoid running into a more dominant rival. Sometimes two friends met and strengthened their bonds with grooming.

But were the animals themselves aware of the unfolding plotline? Apparently so. When Cheney and Seyfarth played back a baboon's vocalizations, the individual's identity unmistakably influenced how others responded. The baboons' knowledge about who's who in the troop, and about the workings of rank and family relationships, added up to what the researchers call "laser-beam intelligence." As Seyfarth put it: "Social intelligence is for primates what celestial navigation is for arctic terns."

Still, laser-beam intelligence, for all its sharpness, is by definition narrowly focused. Outside the social sphere, baboons didn't seem to know much, even about matters of survival. Cheney and Seyfarth once arrived at a study site just after a pride of lions had killed a Cape buffalo. The bloody, dismembered carcass was lying in plain view. But the baboons strolled past, apparently not recognizing that this crime scene was a sure sign of lions. They became alarmed only when they actually spotted the lions resting in the brush nearby. Likewise, neither baboons nor vervet monkeys seemed to recognize that an antelope carcass stashed 20 feet up a tree meant that a leopard, their worst enemy, was in the neighborhood.

What's even more shocking, since social intelligence is their specialty, is how little the baboons seemed to know about one another's minds. One morning, after a languid session of sunbathing at the Termite Mound Spa, the troop moved off in desultory fashion. As they spread out through the woods and randomly foraged, baboons on one side or the other gave "contact" or "lost" calls. For humans, it was natural to assume that the baboons were exchanging barks as a way of signaling, "Hey, I'm over here. Where are you?"

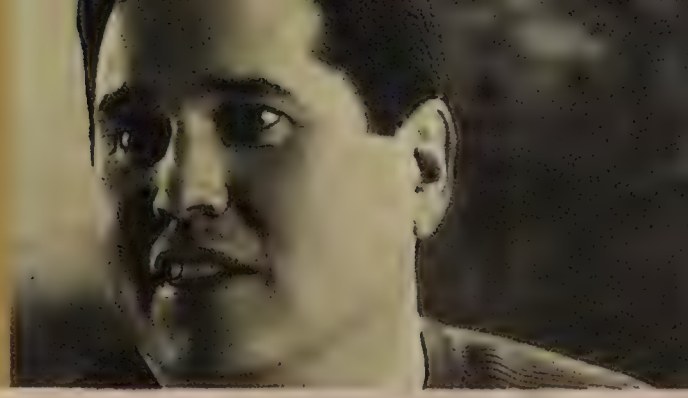
But when Cheney and Seyfarth tested this idea using playbacks, the baboons almost never barked in reply—unless they happened to be lost themselves. Even mothers failed to bark back to their offspring. It was as if the monkeys did not realize they could use vocalizations to inform or influence the beliefs of their fellow monkeys. They barked not to say, "Hey, we're over *this* way," but merely to lament their own sorry state of being lost. And it only worked as a contact call because, in the course of any move, several baboons on different sides of the troop tended to announce that they were lost at about the same time.

Cheney and Seyfarth have gradually come to the conclusion that monkeys don't actually recognize that other monkeys have minds. They feel grief themselves, for instance, but almost never comfort other monkeys who happen to be grieving. They do not seem able to put themselves in another monkey's place. Sylvia, for instance, once made a long water crossing with her baby clinging to her belly. Since Sylvia herself could breathe, it did not dawn on her that her submerged baby couldn't, and as a result it drowned at her breast.

The absence of what academics call "a theory of mind" may help explain why monkeys and apes (with the exception of humans) have never developed a true language: they don't invent words because doing so would require both speaker and listener to attribute intentions and beliefs to each other.

Apes in the laboratory have sometimes learned to understand scores of words. With intensive training, a few animals, such as the chimpanzee Washoe and the bonobo Kanzi, have become famous for their ability to respond to

"Two years ago I was close to death.



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An adult male (foraging in grasslands) weighs around 70 pounds and spends up to six hours a day feeding on figs, nuts and berries.

human language in surprisingly complex ways. But the circumstances were completely artificial. "You can teach a bear to ride a bicycle in the circus," said Seyfarth, "but it doesn't tell you much about what bears learn to do in the wild." And even in the laboratory, no animal has attained anything like true language.

Humans, on the other hand, embody a theory of mind in wild excess. We know what we know, and we know that we know it. We possess the playful, curious, strange and sympathetic entity called human consciousness. Beginning sometime before age 4, as the growing mind leaps ahead, we start to intuit what our fellow creatures know too. And one result is that we can hardly keep ourselves from projecting our own thoughts and feelings not just onto one another but onto other animals and even objects. "It's kind of like my mother with an ATM machine," said Seyfarth. "She assumes there's a person behind it. She's not prepared to deal with the fact that it's just a machine."

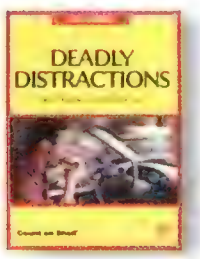
In the same way that an ATM acts as if there's a person behind it, the animals we anthropomorphize often behave much as we'd expect a creature with thoughts and emotions to behave. They may well have thoughts and emotions, but there is no evidence, in Cheney and Seyfarth's view, that they can project either outside themselves, as humans routinely do. It's a fine point that the anthropomorphizing human mind is ill-equipped (or unwilling) to grasp. "When we talk about theory of mind," said Seyfarth, "people eventually say, 'OK, we'll accept that monkeys and chimps are not like people. But my *dog*. . . "

Back at camp one day, Cheney and Seyfarth joined in eagerly as their daughters discussed their own dog, a corgi named Eliot. Eliot likes to sleep under Lucy's bed, they agreed. But then he starts to feel guilty, and worries that he ought to be protecting the whole family. So he creeps out and spends the rest of the night on the landing. The two scientists went along with this anthropomorphism, though they knew it had much more to do with what was going on in their daughters' minds than in their dog's. Projecting our own feelings onto animals is human nature—perhaps even human nature at its most appealing.

A little later, in the camp kitchen, Lucy had set aside Harry Potter for an attempt at *Cry, the Beloved Country*, Keena was deciphering *War and Peace*, and their parents were logging field notes on a laptop. Out on the plain, Shashe began to give her lost call. It was tremulous and pathetic, and after a while you wanted to go out and lead the poor creature by the hand back to her troop. "Shashe's saying, 'Ple-e-e-ease, somebody answer,'" Cheney remarked. But the baboons in the bush were mere monkeys, and though Shashe's calling went on for half an hour, not a single soul replied.

Richard Conniff has visited Africa four times in the past five years. Dave Hamman is a freelance photographer based in Botswana.

Are you keeping your mind on the road?



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Class ACT

BY DOUG STEWART

IN ALABAMA, STUDENTS TURN TIRES AND BALES OF HAY INTO STRIKING ARCHITECTURE FOR THE POOR

ARCHITECTURE STUDENT GABE COMSTOCK reaches into a five-gallon bucket and pulls out a handful of dripping wet, shredded cardboard. He and his Auburn University classmates Amy Holtz and Andrew Olds are trying out recipes for homemade adobe, using corrugated cardboard in place of straw. It's cheap—they get bales of leftover clippings from a carton manufacturer who can't recycle them because they're wax-coated. After soaking the clippings, the students mash them up in a heavy-duty kitchen blender. Then they mix the resulting goo with red Alabama clay, which they dig from a nearby pit, and a little bit of cement.

"This wall was made using corrugated board," says Holtz, slapping a sturdy red-brown surface outside a unit of student housing the trio is building. The blender is the bottleneck. "If we could make a big blender, like out of a lawn mower," says Comstock, "that's what we'd do."

For the young modern-architects-in-training at Alabama's Rural Studio, a cardboard-chewing lawn mower would be worth its weight in T squares. The man who runs this backcountry studio, a sixth-generation Mississippian named Samuel Mockbee, likes to call it Redneck Taliesin South (though he neither suffers Frank Lloyd Wright's ego nor enjoys his budgets). The studio specializes in buildings made from scavenged or donated materials. Its clients are typically African-American families living here in Hale County, one of the poorest pockets of one of the country's poorer states. The studio gives away most of the houses it builds.

Mockbee, 56, a teacher, painter and practicing architect, cofounded the off-campus program in 1993 with D. K. Ruth, a fellow professor at Auburn University's College of Architecture, Design and Construction. Every year, some two dozen students from the main campus 150 miles away arrive for a semester or two of real-life, footings-on-the-ground architectural training. They don't just make weathertight shelters for people who have never had them. They're making full-blown modern architecture.

"There have always been two streams within architectural education," says David Buege, a professor at the University of Arkansas School of Architecture. "There's the desire to fulfill social responsibilities, and

Rural Studio's creations, like Anderson and Ora Lee Harris' "Butterfly House" in Mason's Bend, often have angled tin roofs and screen porches, features that harmonize well with Southern vernacular architecture.

there is also the desire to do more adventurous things. The Rural Studio brings these streams together." For his efforts, Mockbee last year won a $500,000 MacArthur Foundation "genius" award and saw his work honored in the National Design Triennial at the Smithsonian's Cooper-Hewitt, National Design Museum.

Despite all that, Mockbee stays grounded in the humble landscape of the rural South. His attitude, says Buege, is: "'Here is a great place, and there is a lot that students can learn from this place and these people.' He's an unusual character with the purest of hearts."

He's also a potbellied, football-loving extrovert with sloping, crinkled eyes and mobile brows that signal an amused and defiant interior. Around Hale County, he's known as Sambo, or more formally, Mr. Sambo. "If you don't know me, I'm Samuel because y'all are so damn politically correct," he tells visitors from the North.

Hale County's gently rolling hills are punctuated with catfish ponds and unpainted, sometimes abandoned shacks on low brick piers. Here and there are weathered antebellum mansions built by cotton barons before cotton went bust in this area early in the 20th century. Some of the mansions, too, are abandoned. The landscape is little changed from the summer of 1936, when writer James Agee and photographer Walker Evans descended on Hale County to research their now classic indictment of rural poverty, *Let Us Now Praise Famous Men*. More than one-quarter of the county's 17,000 people live below the poverty line, often in tumbledown shacks without heat, air-conditioning or indoor plumbing.

One community to have benefited from the Rural Studio's adventurous architecture is the tiny settlement of Mason's Bend, which lies at the end of a twisting dirt road, nestled in a

"The first night in my new house," says Alberta Bryant, "—ooh, I couldn't sleep."

crook of the Black Warrior River. The hamlet's four extended families, descendants of slaves and sharecroppers, live in small ramshackle houses and trailers amid pigs, chickens, cattle and rusting machinery. The 100 or so inhabitants appear to have been left behind by the rising tide of American prosperity.

Fifth-year students Forrest Fulton, Adam Gerndt, Dale Rush and Jon Schumann spent a semester with some of the families here before designing and building a community center last year. In make-do regions like Mason's Bend, they learned, places have multiple uses—people play ball in the street, hold prayer meetings in a trailer, or live, perhaps, in a school bus. So the students' plans for a simple bus shelter evolved into a bus stop/chapel/community center. As a result, Mason's Bend now boasts a sculptural indoor-outdoor gathering place in the middle of town. Its awning-style skylight is a curving assemblage of nearly 100 car windows that two of the students extracted from a fleet of junked Chevrolet Caprices for less than two dollars apiece; the windows are strung together like overlapping fish scales. (The students got A's.)

The community center has been used as a chapel, but residents also have had cookouts here. Despite its postmodern geometry, the new shelter somehow fits right in among the homemade dwellings of Mason's Bend, neither too big nor too outlandish.

Just down the road is the home of Alberta and Shepard Bryant, known as the "Hay Bale House." This was the Rural Studio's first project, completed in 1994. The Bryants' previous home had a leaky tin roof patched with tar paper. On rainy days, the elderly Bryants would push their furniture to a dry corner. Their new house, though humble and utterly low tech, is stylish enough to have appeared in *Architectural Record*.

Costing under $20,000, it has indoor plumbing, stuccoed hay-bale walls two feet thick, a generous porch roof of translucent acrylic, and three nooks in back for the Bryants' grandchildren to sleep and study. After learning that Shepard helped feed his family by pulling turtles and catfish from the Black Warrior River, student Scott Stafford constructed a tiny but elegant smokehouse for his catch from broken curbstones, colored bottles, and road signs.

Like any architectural clients, the Bryants reviewed the students' early drawings. Shepard was quick to reject plans for a second floor (fortunately, as Alberta now uses a wheelchair). The idea of walls made of hay bales took some getting used to, says Alberta. "We had three or four cows back then," she says. "I said to Mr. Sambo, 'When you put up this hay house, the cows are going to come through the fence, and they're going to eat this house, I *know* they will!'" She cackles at the recollection. The house remains level, dry and unchewed. "The first night in my new house—ooh, I couldn't sleep, it was so nice! I stayed up all night with the light burning, just looking and walking, going from room to room."

At the other end of the settlement is the "Butterfly House," home to Anderson Harris and his wife, Ora Lee. Built in 1997, it uses heart pine salvaged from a century-old church. The roof of the house funnels rainwater that is collected for clothes washing and toilet flushing, no small luxury to those who have never had running water.

"I've got my own gods and demigods," says Samuel Mockbee (in his Newbern studio last June), referring to his artwork.

The "Butterfly House" has a dramatic inverted roof, like a butterfly's wings, to collect rainwater and funnel it to an underground cistern.

Some critics have asked if the Rural Studio isn't indulging in design experiments with poor folks as guinea pigs. Mockbee will have none of it. "These are our clients, and they have as much input as they want," he says. Over a late breakfast at the Crispy Chick in Greensboro, the county seat, where he orders a well-done hamburger, Mockbee lays out his design philosophy. The standard he and the students use in judging a building's success is whether they'd want to live there themselves. "Wouldn't you like to live in the Butterfly House?" he asks. "We'd all like to live in it."

A good home should be warm, dry and noble, Mockbee likes to tell his students. A new mobile home might be warm and dry, but it's rarely more than that. "There's no imagination. There's no lifting of the spirit," he says. The Rural Studio's creations do indeed delight the eye while comforting the body.

Mockbee can't understand why so many American architects agree to make pretentious, oversize homes that are intended to stun the onlooker and proclaim the owner's status: "Affordable housing for the incredibly rich," he calls it. "For the most part, the architectural profession has turned its back on dealing with low-income housing," he adds.

Mockbee grew up in Meridian, Mississippi, in the days of rigid racial segregation. His father was a traveling shoe salesman; his mother, a schoolteacher. His first real taste of integration came when he served as a basic training instructor in the Army in the 1960s. Since then, he's come to see what he calls the "moral contradictions" of the South's proud and storied past, the uneasy coexistence of Southern gallantry and racial prejudice. He avoids talking politics with his students, most of whom are relatively privileged white Southerners, but he believes emphatically that rural poverty, which has hurt African-Americans disproportionately, has little to do with individual inadequacies.

Before joining the Auburn faculty in 1993, Mockbee was half of a thriving two-man architectural practice, Mockbee/Coker Architects, with fellow Southerner Coleman Coker. Their blending of jagged, asymmetrical modernism and down-home materials and surfaces—unpainted pressure-treated wood, unadorned cinder blocks, corrugated shed roofs—earned them national attention and an affluent clientele. In 1986 the firm worked pro bono on designs for three small houses to be built on the cheap ($25 a square foot) for families below the poverty level in rural Mississippi. The designs won a major award but no funding, and they remain unbuilt to

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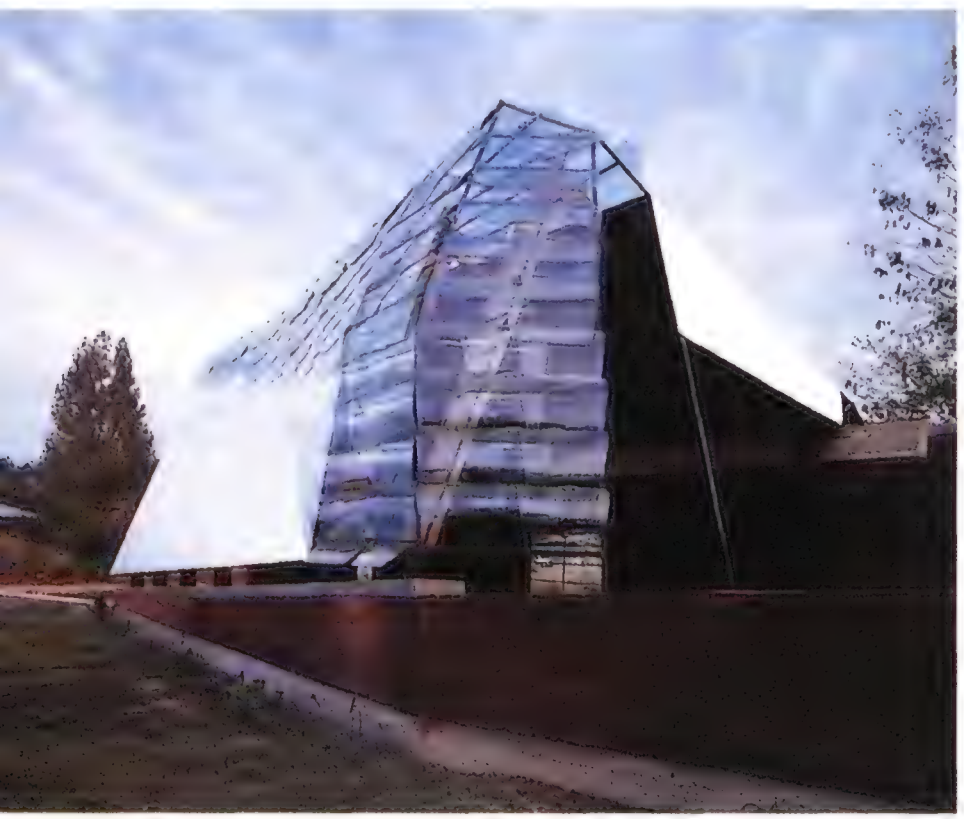
"When you ram the walls yourself, you feel it the next day. There's a lot of pride in those walls."

this day. Mockbee's lingering disappointment fueled his launch of the Rural Studio, and his and D. K. Ruth's lobbying has brought in more than $100,000 a year in grants from organizations such as the Alabama Power Foundation and the W. K. Kellogg Foundation.

Based ten miles south of Greensboro on a spot in the road called Newbern, the project occupies a pair of 1890s farmhouses, both in need of attention. A weathered warehouse serves as a design studio, close by the town's only general store (which Mockbee calls the student union). Students are housed in the farmhouses or out back in a motley row of eye-catching "pods"—compact works



Last year, students fish-scaled car windows to build Mason's Bend a community center that serves as library, computer lab, church, picnic pavilion and more. Cost: $20,000.

of student architecture that suggest a kind of postmodern Tobacco Road. At the end of the row is a two-story outhouse sheathed in surplus license plates donated by the local probate judge (and mounted silver side out for that iridescent Frank Gehry look) and a luxurious open-air shower housed in a cylindrical brick tower. The shower's meticulous brickwork was done by a muscular young mason everyone calls Big Selma, who's on loan with two other inmates from a local prison farm.

For the most part, however, it's the students who do the work, from pricing windows to digging septic trenches. At a half-built house in Sawyerville, several students have been pounding earth and cement five days straight to make rammed earth walls. The home's future owner—recommended, like other clients, by the county's Department of Human Resources—is a single mother with six children.

"Now that we've gotten the walls up, it's really starting to pop," says Natalie Butts, 21, who was in charge of rousing her classmates every morning at six to pound dirt. "When you ram the walls yourself, you feel it the next day. There's a lot of pride in those walls, I'll tell you." Despite sore wrists, the students relish doing more than just drawing make-believe structures. "Out here, you really learn what it is to *live* in a house," says David McClendon, 30. "You go to the Butterfly House, and it's just covered from floor to ceiling with newspaper clippings and family photos."

Though the students enjoy relatively free rein, Mockbee and two visiting faculty members veto drab, ostentatious or unworkable designs. For a design-review session one evening, students crowd into one of the farmhouse kitchens. Some plans that bristle with odd angles and expensive details prompt the teachers to warn of overreaching. "That two-story sheet of glass you have on the left," Mockbee tells one young woman, "is going to cost more than all the other windows in that wall combined. You're definitely going to have to bust that up."

Thrift is decidedly a virtue. For framing a new boys and girls club in the nearby town of Akron, a student wangled $25,000 in donated steel. (He, too, got an A.) Another experimented with using bales of polyester clothing, normally dumped in landfills, as a building material. Several years ago, a group of fifth-year students built a breathtaking open-air chapel by stacking and stuccoing nearly 1,000 dirt-filled tires a local man had been under court order to get rid of. The students floored the chapel with flat stones picked from a nearby stream and pumped water from a well to make a trickling fountain. The students' zest for experimentation is abetted by Hale County's dearth of building codes. Still, Mockbee assures anyone who asks, the faculty sees to it that everything's built to last.

For all its attention-getting work, the Rural Studio produces no more than three to six buildings a year, with hardly any easing of the overall burden of poverty in Hale County. The program's greatest impact is clearly on its young architects-to-be. "You see these affluent and middle-class students come in with preconceived notions about poverty," says Mockbee, "and then you see them working hard to win the respect of a man like Shepard Bryant or a single mother with six kids."

Sometimes the lessons are subtle. Marnie Bettridge, James Kirkpatrick

An Italian fashion magazine recently posed models in front of the students' quarters, built of scrap tin and wood, recycled plastic and discarded license plates.

and Jay Sanders recently refurbished a baseball field where Newbern's African-American community has gathered for a century's worth of Sundays. Its dilapidated chain-link backstop leaned and drooped near collapse. Lying just outside the first-base line was an old truck seat with a peeling vinyl cover that served as the coach's seat. Close behind it, a battered refrigerator rested on its side, its detached door rusted and bowed on top. "That's where the elders of the community sit," Kirkpatrick says. "They yell at the coach and the umpire from there." The world of the weekend ball game, the students gradually learned, is a well-ordered social system with its own VIP seating, regular spots for catfish vendors, and other niceties. The new ball field, designed after a series of informal community meetings, has a higher, sturdier and more graceful backstop, but it retains the funky, patchwork flavor of the old. The refrigerator seating remains.

Mockbee's MacArthur award last year triggered a certain amount of hoopla, and he says he'll be happy when his 15 minutes in the spotlight are up. In quiet times, such as summers back home in Mississippi with his wife, Jackie, he works alone on enormous semiabstract paintings. He stores many of them in an empty general store outside Newbern that's a study in genteel decay. Inside, the walls pulsate with flaming colors and supernatural figures. His canvases and mixed-media works incorporate animal skulls, burned lumber, turtle shells and the odd bowling ball. Shepard Bryant appears in one painting as a magical turtle. And here's Alberta in her wheelchair holding hands with a pagan goddess.

"Painting is a way for me to reflect quietly on what's going on around me," Mockbee says. (An exhibition of some of his paintings, drawings and building models is on view at Cincinnati's Contemporary Arts Center until November 4.)

In his paintings as in his architecture, Mockbee strives for an honest, unprettified dignity. He's now designing a house in Mason's Bend for Lucy Bryant Harris, a daughter of Alberta and Shepard Bryant's. "I'm going to build her house out of recycled carpet bales," he says, with the enthusiasm that other architects reserve for Carrara marble. "It's going to be unique. It's going to be cool."

Doug Stewart often writes about art and design. Photographer Timothy Hursley is coauthoring a book on the Rural Studio.

IN SEARCH OF St. Augustine

BEYOND THE TOURIST TRAPPINGS AND SUNNY BEACHES, INQUISITIVE TRAVELERS CAN FIND REMNANTS OF AMERICA'S SPANISH PAST

BY RICHARD & JOYCE WOLKOMIR ♖ PHOTOGRAPHS BY CAMERON DAVIDSON

FRESH JUICE. DRIFTWOOD. SEASHELLS. GATOR HEADS. *GATOR HEADS?* THE SUN-FADED SIGN AT Tom's Fruit and Gifts shop appeared as a relic from a time before the beaches erupted with high-rises on Anastasia Island, just south of St. Augustine. And when we told Tom's proprietor, Bill Grohowski, we had driven from Vermont to learn about Florida's 287 years as part of Spain, he smiled and said we'd come to the right place.

"This store is built on an old coquina pit," he told us, explaining that coquina, a stone formed from compressed shells, was the Spaniards' favorite building material in these parts. "Most of this island's little lakes were Spanish coquina pits," he added, before directing us to a rarely visited site, down a nearby alley covered with loose shell, to the Old Beach Road, at Riviera Street.

There we found a ruined stone chimney from which a big red cedar grew at a slant, all that remains of what may have been a barracks for Spanish coquina quarriers. In the 1670s, workers hired to do the heavy lifting made one *real* per day, about 20 cents, plus corn rations. Wagons hauled the coquina blocks to the shore, then rafts took them to St. Augustine's waterfront to be mortared into the new fortress, Castillo de San Marcos. By then, St. Augustine was more than a century old. Spanish Florida was even older.

It was in 1513 that Juan Ponce de León first saw these beaches. Because it was Easter and the season of flowers, *Pascua Florida*, Ponce dubbed his discovery La Florida. It is unclear where he landed, but St. Augustine is one possibility. Talk about succinct: his narrative tells us only that he "went ashore to get information, and take possession."

During the 19th century, the Spanish-built Castillo de San Marcos, which dates to 1695, became a U.S. military prison. Many of the Seminole, Plains Indians and Apache, captured during wars and Western operations, were confined here. In 1886, a daughter of the Apache chief Geronimo was born at the fort.

Smithsonian Journeys

City archaeologist Carl Halbirt excavates structures in the historic district targeted for razing or major renovation. A search beneath the Monson Motor Lodge uncovered French and German pottery—evidence of international trade after 1700, during both the British and Spanish occupations.

An Indian's arrow killed Ponce on his second trip to Florida, in 1521. But by then he had made a major discovery: the Gulf Stream. He said its "water ran so swift it had more force than the wind." Treasure galleons from South America and Mexico now sailed to Cuba, then rode the Gulf Stream north. Near St. Augustine, they caught westerly winds and turned east, to haul their looted bullion to Spain.

The gold and silver sizzled through Europe's economic bloodstream like heroin. According to historian Edward McNall Burns, Europe's precious metals supply totaled about $400 million in 1492. By 1600, it was $2 billion. "No other cause was so fully responsible for the growth of a capitalistic economy," Burns wrote. This booty came from Incan and Aztec treasuries as well as from mines in Mexico, Bolivia and Peru. Enslaved native peoples worked the hellish pits. In 1519, Indians in the region from Panama northward, soon to be called New Spain, numbered 25 million; by 1605, imported European diseases and enslavement reduced the population to a mere one million.

For the Spanish, these were giddy times. By 1492, they had finally expelled the last of the Moors, their rulers since A.D. 711. High on New World riches and religion, Spain went on a geopolitical toot. By 1520, it was the reigning superpower in Europe and the Americas. But as the ingots poured in, Spain tussled—in various combinations—with France, the Netherlands and Britain, and with other countries too. They fought over hegemony and over gold. But their nastiest fights were over whose way of worship was the true way. It was this fight that led to the founding of St. Augustine.

From Spain's gold-centered point of view, La Florida was a sandy, swampy, snaky, sweltering zero. Hernando de Soto tramped through with more than 600 men in 1539. Nearly half died, including de Soto. No gold. Others, too, failed. And so by 1561, Philip II had declared Florida not worth settling.

Then, in 1564, French Huguenots landed near today's Jacksonville and built

The 1874 St. Augustine Lighthouse (above, left), with its 219-step spiral staircase, presides over the Intracoastal Waterway. It replaced Florida's first lighthouse, a converted Spanish watchtower that shoreline erosion had forced into retirement. Six years later, the original tower crashed into the sea. The National Park Service, charged since 1933 with the upkeep of the Castillo de San Marcos (top), is completing a $3.6 million renovation. A red waterproof membrane is being installed beneath the floor of the gun deck. About 14 miles south of St. Augustine, the Spanish erected Fort Matanzas (above) on Anastasia Island to protect Matanzas Inlet against back-door attack. It now guards 300 acres of marsh and hammock.

a fort they named Caroline. Where the Spanish had seen Florida as a no-gold wasteland, Jean Ribaut, a Huguenot leader, saw Eden, a land the "fairest, frutefullest, and plesantest of all the worlde."

Now French Protestants—heretics!—squatted in Philip's Florida. Worse, they were nicely situated to attack the galleons near where the treasure fleets turned east, toward Spain. This called for action. And Philip knew just the man.

Pedro Menéndez de Avilés had served as captain general of the annual treasure fleet to the Americas. He had also done jail time on a trumped-up smuggling charge. So when the king needed a tough guy, he turned to Menéndez: "You will explore and colonize Florida," he commanded, "and if there be settlers or corsairs of other nations not subject to us, drive them out."

In 1565, Menéndez sailed from Cádiz with about 30 vessels, carrying approximately 2,600 sailors and soldiers, administrators, priests, farmers, millers, tanners, locksmiths and silversmiths. Meanwhile, France's Jean Ribaut had his orders too: "Do not let Menéndez encroach upon you, any more than he would let you encroach upon him."

Scouting ahead of his armada, which had been scattered by storms, Menéndez sighted a good harbor on September 3. He named it San Augustín, for his hometown's patron saint. A few days later, after a foray to the north and a preliminary skirmish with the French, he sailed back to set up shop at St. Augustine. Timucua Indians greeted the Spaniards as they stepped onto the white beach in their thigh-high boots, and tights and puffy breeches, hot sun glinting off their metal armor and helmets. The Timucua, who sensibly wore little, must have been bemused by the sight as the Spanish blew trumpets, beat drums, shot off cannon, celebrated mass, and then, one by one, kissed a cross. It was September 8. St. Augustine was now a Spanish municipality.

Hospitably, the Timucua offered the Spaniards their village's palm-thatched communal house to use as their fort. Arriving ships swelled the new colony to

A city ordinance bars street performers, artists and vendors from a four-block area on St. George Street, in the heart of the historic district. Protester Ron Dolan, a.k.a. Sterling, the Silver Man (top), says the law violates his First Amendment rights. Shopkeepers complain that Dolan and other street performers clog the compact passageways and take money away from businesses. Nearby, blacksmith Joseph "Deacon" May demonstrates his craft in a city-operated, restored section of a 1740 neighborhood, the popular Colonial Spanish Quarter Museum.

500 soldiers, plus a hundred men, women, children and officials, whom Menéndez termed "useless people." Meanwhile, the soldiers did what they could to fortify the communal house, expecting an immediate French attack.

Just as the Spaniards were digging in, two French galleons from Fort Caroline appeared on the horizon. But before Jean Ribaut could strike, a sudden storm blew his ships to the south. Exploiting the bad weather, which lasted for days, Menéndez ordered a hard march up the coast, through wind and floods, to take Fort Caroline by surprise. Of 240 in the garrison, 132 were killed.

To the south, the storm-blown French ships foundered. The French soldiers trudged back north, unaware the Spanish had taken their fort. Menéndez, with 50 soldiers, persuaded 200 of the bedraggled Frenchmen to surrender. Then, except for ten professed Catholics, whom Menéndez afforded safe passage to St. Augustine, he had them skewered. Soon after, he captured Ribaut and 150 Frenchmen. Except for the musicians and four Catholics, he killed them too.

St. Augustine, for now, was free to fulfill its mission of warding off attacks on the royal treasure fleets. That is, when it wasn't combating fire, famine and pestilence. In 1586, Sir Francis Drake burned the place to charcoal. St. Augustine rebuilt. In 1668, English pirates destroyed it again. It was time, the Spaniards decided, to build a proper fort. They stockpiled Anastasia Island coquina on the St. Augustine waterfront and, in 1672, broke ground for the Castillo.

More than three centuries later, driving into St. Augustine, we negotiate the outlying jumble of car dealerships and condos, then thread the narrow streets of the historic district to the harbor. Abruptly, the Castillo looms on its grassy swath. A national monument, it is the oldest masonry fort in the continental United States and one of the best-preserved. It looks encrusted with time.

"Probably, it's the most hurricane-resistant building in Florida," Castillo superintendent Gordon Wilson told us when we visited him at the National Park Service offices. Over a door, someone had taped up a photocopy of Titian's portrait of Pedro Menéndez, his dark hair cropped, wearing a ruff and puffy sleeves. Hand-lettered on the picture, it said: "Pedro Has Left The Building."

"We have about 600,000 or 700,000 visitors a year," Wilson told us as we walked around the Castillo's gray-white walls. He said the fort was never taken. In 1702, British forces from Carolina gave St. Augustine one of its periodic burnings, but all 1,500 residents crowded into the Castillo for 50 days, until a warship from Havana chased the British away. "Legend says cannonballs stuck in those soft coquina walls as if they were cheese, doing no damage," said Wilson. "Otherwise, right now we might be looking at condominiums."

Travelers have been visiting St. Augustine at least since 1827, when the 23-year-old Ralph Waldo Emerson wintered here to cure his tuberculosis. But it was after the railroad's arrival in the 1880s that tourists began coming by the thousands, staying at the magnificent new hotels of oil and vacation mogul Henry Flagler, to sun on the white beaches, to fish, to play golf and tennis.

Even modern St. Augustine's premier attraction remains its long history. The old section is compact, and you can walk the lanes. In the 1790 Murat House, which Napoléon's nephew once rented, the museum director showed us a musket ball embedded in a wall. We asked who had fired it. He shrugged. When a town has been around for five centuries, some stories are lost.

One afternoon we drove north of town to Guana River State Park, 2,200 acres on a barrier island between the Atlantic Ocean and the Tolomato River section of the Intracoastal Waterway. What the early Spanish colonizers saw, we can see today at the park: hardwood hammock, shell mound, salt marsh, inland marsh, pine flatwoods, coastal strand, and beaches and dunes. These seven different types of habitat support a lot of wildlife, such as bobcats and threatened loggerhead sea turtles, which lay their eggs on the park's protected beaches, and more than 175 species of birds, including ospreys and bald eagles and threatened least terns. Somewhere in, or near, the park, although nobody knows where, the Spanish built a mission—La Natividad de Nuestra Señora de Tolomato.

In fact, given America's love of the bulldozer, it is astonishing how much of Spanish St. Augustine remains. Bill Adams, the city's director of historic preservation and heritage tourism, said it's lucky that any of it is left. By 1959, the year the state of Florida began buying them, only 36 of the 300 buildings here in 1821 still stood. The city took over in 1997. All 36 buildings were saved.

The central plaza, laid out in 1596, was the Spanish colony's gathering place until 1763, when Spain ceded Florida to Britain. Twenty years later, the treaty ending the American Revolution returned Florida to Spain. That second Spanish period ended in 1821, when the United States formally took possession.

"When the Spanish were here, the plaza was a marketplace, a military parade ground, a place to socialize and gossip," Adams told us. In Spanish times, he added, this town of 2,000 had 40 wine-and-rum establishments, many run by widows.

One tavern still stands, the González-Alverez House at 14 St. Francis Street. Owned by the St. Augustine Historical Society, it is known as the "Oldest House." Initially palm thatched, it was probably home to a Spanish soldier and his Timucua wife. After 1702, when the British burned St. Augustine, townspeople rebuilt the house Spanish style: one story, flat roof, coquina walls. Floors were of tabby, a concrete made from seashells.

One certain resident of the house, Tomás González y Hernández, was a 20-year-old sailor when he arrived in St. Augustine from Tenerife, the Canary Islands, in 1721. He became an artilleryman at the Castillo and married a local girl. Like other soldiers, González and his wife would have subsisted on produce from their backyard garden, supplemented by oysters and clams from the bay. Indians sold turkey and venison. Tomás' wife bore ten children—one every 18 months. Six apparently survived beyond childhood.

The Gonzálezes went through rough patches when garrison pay failed to arrive, as it often did. They had few pieces of furniture, and at night their sleeping pallets must have taken up much of the house's floors.

St. Augustine's houses represent the Spanish, British and American periods. Nothing remains today of the 1738 Spanish Fort Mose, which was manned by an all-black militia, or the free town of Gracia Real de Santa Teresa de Mose. Located a mile north of the Castillo, it became a safe haven under Spanish law, granting sanctuary to escaped slaves.

The builders of this fortress are largely lost to history. Their legacy is the impregnable Castillo itself.

Life was not without its excitements. In the summer of 1740, intent upon taking St. Augustine for the crown, British General James Oglethorpe marched down from Georgia and set up batteries across the bay. The González family gathered with other St. Augustinians under the Castillo's sheltering walls. Upstairs, on the gun deck, Tomás manned a cannon. For 30 days the British and Spanish lobbed shells at each other. Finally, ships from Havana sailed up the Matanzas River into the bay, bringing supplies. With the Castillo restocked, Oglethorpe cut his losses and marched home.

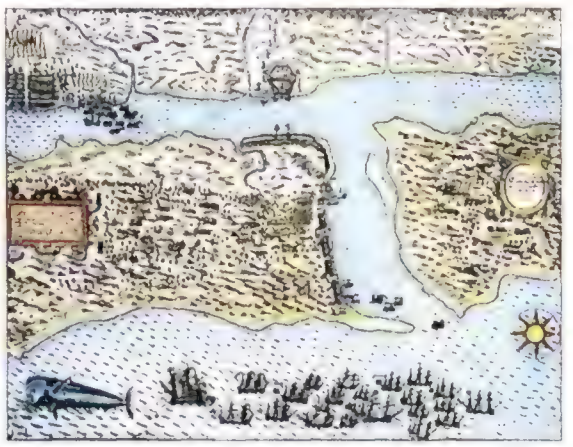
When the Spanish were forced to leave Florida, Tomás, then 62, put his house up for sale, and with his wife and their children, boarded a ship for Havana. Not until 1805, after years of haggling, and long after the couple had died, did an English real estate agent finally send the González children any money, about half the sale price.

On our last evening, we strolled along the harbor, musing on the city's densely layered history, on its inhabitants across the centuries. Some—Tomás among them—live on as identifiable individuals; countless others remain nameless. We studied the 306-year-old Castillo de San Marcos, brooding over the bay. The builders of this fortress—Spanish stonecutters, overseers, blacksmiths, teamsters, quarrymen, lime burners, Indians of the Guale, Timucua and Apalache tribes, free blacks and slaves, Spanish convicts, captured Englishmen—are largely lost to history. Their legacy is the impregnable Castillo itself. For centuries, it rose out of the subtropical wilderness, walls plastered white, guard tower red—the colors of Spain.

Richard and Joyce Wolkomir have written extensively about Americana for SMITHSONIAN. *Miami-born Cameron Davidson photographed* Over Florida, *published by Weldon-Owen in 1992.*

Want to venture out on a quixotic quest to find 16th-century España, right here in the good ol' USofA?

ONCE YOU'VE found a parking space along the cramped streets of St. Augustine (the visitor's center on San Marco Avenue across from the Castillo is your best bet), look east toward the bay front. Imagine there, a fleet of 42 British vessels bearing down on the harbor. The year is 1586, and Sir Francis Drake and his 2,000 soldiers and sailors have come to attack the Spanish garrison town of San Augustín. As villagers dash into the woods to hide, the British trample gardens and cut down flowering orange trees. Thatched homes and the wooden fort are torched. The attack is yet another hit-and-run tragedy for this town—an entry recorded in the pages of history, along with the map (above) that Drake commissioned just before his attack. Today archaeological fragments of that era are still to be found, gleaming like gold locked in surrounding ore. Take, for example, the Government House at 48 King Street, where colonial governors ruled beginning in 1595; three walls of one wing date to about 1710. Here, where the city houses its preservation headquarters (904-825-5033), a small but lively museum makes for an excellent starting point. The majestic Castillo de San Marcos (904-829-6506; nps.gov/casa) is open while undergoing renovation through early next year. After visiting it, intrepid travelers can encounter the colonial period on a walk through the city's inviting, grassy central plaza. There, a monument celebrates the 1812 Spanish Constitution.



IN NARROW LANES, closely spaced houses turn their backs to the street, opening instead in the Spanish tradition to gardens at the side or in the back. At the northern edge of St. George Street, visit the coquina towers of the old city gate, which have graced the town since 1808. Between Charlotte and St. George streets, you'll find the mission-style 18th-century Cathedral of Saint Augustine (904-824-2806) with its Spanish Renaissance-style bell tower that was added in 1887. Dating to 1594, the parish is the oldest in the United States.

FOR MORE INFORMATION on St. Augustine, visit our Web site, **smithsonianmag.com/journeys**. *¡Bien viaje!*

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Gone Fishing

FOR 20 YEARS, DON MOSER HOOKED READERS WITH GREAT STORIES. NOW THAT HE'S RETIRING, TROUT BEWARE

BY JOHN P. WILEY, JR.

SMITHSONIAN MAGAZINE HAS HAD ONLY TWO editors in its 31 years, and now the second is leaving. Don Moser is putting down his pencil and picking up a fly rod. After taking over from the founding editor, Edward K. Thompson, in 1980, Don ran the magazine in the independent tradition of H. L. Mencken at the *American Mercury* and Harold Ross at the *New Yorker*: his subjective judgment, and his alone, determined what would run. No committees, no voting. Judging by the results—two million subscribers, a National Magazine Award and a stack of other prizes—it was a formula for success.

Before coming to SMITHSONIAN, Don acquired the kind of wide-ranging experience a good magazine editor needs. He attended Heidelberg College for two years and then had to drop out for financial reasons. While waiting to be drafted, he worked for the U.S. Forest Service as a fire lookout in northern Idaho. He describes his military career as two years of "pushing a pencil at Fort Benning." He then attended Ohio University on the G.I. Bill. On summer vacations he worked as a seasonal ranger in Olympic and Grand Teton National Parks. "My greatest achievement during those ranger days was saving a drowning moose," he says.

Even greater achievements were soon to come. After graduating from Ohio University, Don got a fellowship to study writing at Stanford with novelist Wallace Stegner. He showed Stegner his senior honors project from Ohio, a book about Olympic National Park that he'd written and used his own photographs to illustrate. The Sierra Club had just published a big Ansel Adams book and was looking for a new project. Stegner told David Brower, the Sierra Club's first executive director, "I've got this student named Don Moser who has something you should publish." *The Peninsula* came out in 1962.

A Fulbright Scholarship took Don to the University of Sydney in Australia. Home again, he was hired by the old *Life* magazine as a military affairs reporter. At that magazine, he saw the extremes life has to offer. He became West Coast bureau chief in Los Angeles, covering Hollywood, the Good Friday earthquake in Alaska and the Watts riot. He then went on to Hong Kong as Far East bureau chief, spending much of his time in Saigon during the Vietnam War. Some of his writing from the war zone appears in *Reporting Vietnam: American Journalism 1959-1969*, published by the Library of America. In one of those pieces, he describes spending time with eight village leaders, marked for death by the Vietcong. All but one (who thought it safer to move from place to place) spent their nights huddled in the railroad station, the only concrete

WILLIAM BRAMHALL

building in the village. Not long after Don was there, most of the men were indeed killed.

During a recent interview, Don's wife, Penny, said: "And don't forget he was almost killed twice." Don responded with a dismissive wave of his hand: "Oh, I was scared stiff a few times, but so was everyone else."

When *Life* folded, he turned to freelance writing. His assignments for this magazine included pieces on the Army Corps of Engineers and the Smithsonian Tropical Research Institute. He wrote four of his five books during those years, including *Central American Jungles; China, Burma, India* and *Snake River Country*. He came in out of the cold in 1977 to become an executive editor at SMITHSONIAN. Within a few years, Ed Thompson retired and Don became the new editor.

Moser pushed for higher-quality writing, better storytelling, writers who could "let the camera run."

The man has passionate interests. He is an expert birder. He uses an eight-inch telescope to search for what are known as "deep-sky" objects—galaxies, nebulas and star clusters. He fishes for trout in Idaho and bonefish in Belize, releasing every one he catches. For years, he and Penny took in dogs that were seriously ill or seriously injured. Right now they live with three yappy terriers. One of them, Harvey, is so disabled that Don pulls him around the neighborhood in a red wagon.

As editor, Don Moser pushed for higher-quality writing, better storytelling, writers who know how to "let the camera run." In choosing what ideas to commission, the aim always was to surprise the readers: present them with a story they had seen nowhere else and were unlikely to see in the future. His take on the quality of the material published in SMITHSONIAN occupied a spectrum that ran from "terrific" down to "this won't embarrass us."

Don loved his job. "At SMITHSONIAN, you get to cover everything from Motown to Mars," he said. "You have terrific writers and photographers to work with. And you have wonderful readers, who tend to think of themselves as part of the family, which indeed they are. They encourage us, they correct us when we're wrong and they never fail to give us advice. Of the thousands of letters to the editor that I've read over the years—and I've read them all—one stands out for its pithiness. It reads, in its entirety, 'Dear Editor: Support the law of gravity.'"

He was unflappable. Late in the process of closing an issue, you could walk into his office and tell him that

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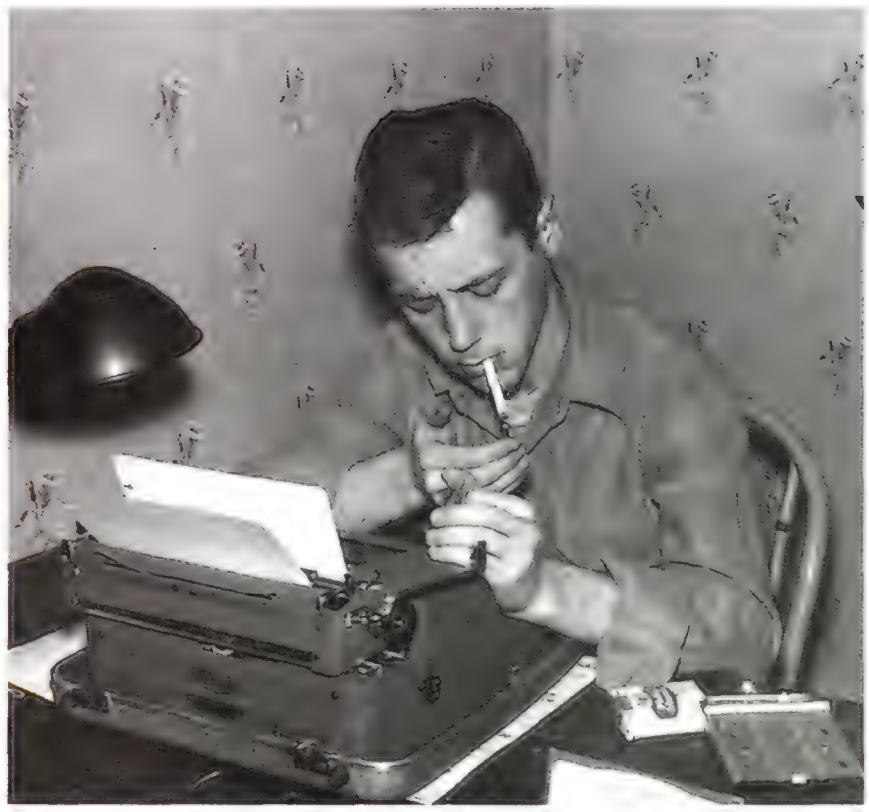

At Ohio University, where he churned out term papers on a Royal manual typewriter, Don Moser majored in English literature.

the full-page picture opening an article could not be used for some reason just discovered. There'd be no histrionics, no calling for someone's head. Instead, he'd say calmly, in a conversational tone, "OK, let's see what we can use instead."

All was not sweetness and light, of course. The staff dreaded what we called the "fish eye" (or what one former copy chief dubbed the "hairy eyeball"). An editor would be in Don's office explaining an idea for what he or she considered a terrific story. Don would simply stare at the editor, expressionless, until he or she would start stumbling over words and finally say, "No, huh?" There was another Moser response I dreaded even more, perhaps because I experienced it so often. Don would silently look over a writer's story proposal and then say: "This is really interesting. And this is all I want to know about it."

Sometimes, though, even the fish eye would soften into approval. Years ago I was invited to accompany a group of scientists on an expedition to study a total solar eclipse. We would be in a jet, racing with the moon's shadow over the Indian Ocean. Don wanted to know if any discoveries were likely. I said no. Was this eclipse any different from any other? No. Still more questions, and more negative answers. It was clear I was not going anywhere. I turned to leave the room, and only then did Don say: "You better go."

Now he's going. The new editor, Carey Winfrey, is off and running. The Don Moser era is over. It has been a privilege and a pleasure to work for this rare and gentle man. We'll miss him more than words can say.

COLLECTION OF SEAN MOSER

Bears and Rhinos

NEVER UNDERESTIMATE THE ROLE OF SENTIMENTALITY IN THE MAKING OF AMERICAN MYTHS AND HEROES

BY LANCE MORROW

For this department a distinguished writer is asked to read the magazine's feature articles before publication and to comment or elaborate on them or take issue with them.

WENDY MITMAN CLARKE'S ARTICLE on teddy bears describes Teddy Roosevelt's pursuit of a bear in Mississippi in 1902, and the subsequent newspaper cartoon of Roosevelt, in a faux-heroic pose, forbearing, in the end, to shoot the stunned, exhausted beast.

None but the basest hunter, of course, would shoot a tethered, semiconscious bear. But in a nation that had wiped out passenger pigeons once capable of darkening the American sky and had blasted the buffalo off the plains, a cartoonist might sentimentalize if a hunter declined, on a technicality, to finish off a bear waiting under his rifle's muzzle.

Audubon slaughtered astonishing numbers of birds in the course of his artistic expeditions. Roosevelt himself was bracingly—ruthlessly—unsentimental in the woods. His hunting books (*Outdoor Pastimes of an American Hunter*, *Hunting Trips of a Ranchman* and, above all, *African Game Trails*, the record of his 1909 East African safari) rank with the best of American nature writing. Roosevelt, a conserva-

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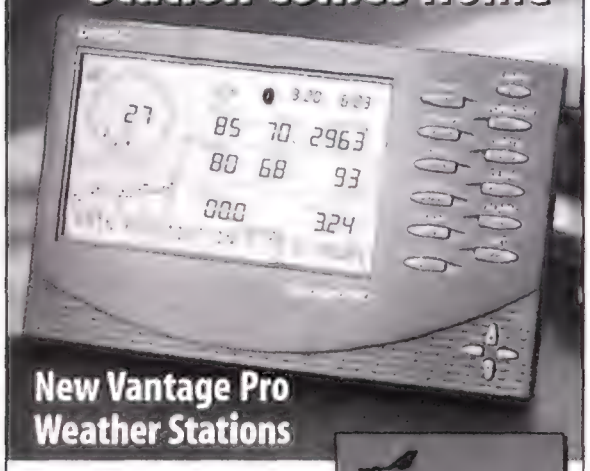

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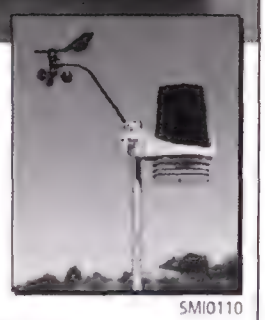

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tionist who did more than any other President to preserve the American wild, rejoiced in vivid specificities of landscape and weather and animal life. He was a poet-naturalist—and, of course, a supreme self-dramatist.

Roosevelt was also, from time to time, an almost hilariously appalling hunter—myopic, inaccurate, relentless, an unholy partnership of Mr. Magoo and Tasmanian Devil. After a boxing accident in the White House in 1904, he lost the sight of his left eye. His exuberance and boyish projection of triumph led to an addiction to taking aim from afar and wasting ammunition. Why wait for one clean, sure shot when you might blaze away with 10 or 15 bullets—laming the beast with a shot to the knee or haunch, then bracketing in on ear or shoulder? Roosevelt relied on what he called the "Ciceronian theory, that he who throws the javelin all day must hit the mark some time."

When he left the White House in 1909, Roosevelt embarked upon the most opulent of all African safaris (admirably described in Bartle Bull's chronicle *Safari*). Financed by Andrew Carnegie and by his own proposed writings, Roosevelt hunted for specimens for the Smithsonian Institution and for the American Museum of Natural History in New York. He hired the best of Africa's white hunters; three professional field naturalists, two of them taxidermists; and as many as 500 native bearers to carry the gear, which included 60 works of Milton, Dickens and more than 30 other authors, bound in pigskin. The safari caravan on the march stretched out for over a mile. The native bearers referred to Roosevelt as *Bwana Tumbo*—"Bwana Stomach." He preferred his other camp name—*Bwana Makuba*, or "Great Master."

Roosevelt summarized the setting melodramatically: "On the land and in the water there are dread brutes that feed on the flesh of man." During the safari, Roosevelt and his son Ker-

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mit killed 512 animals of more than 80 species, including 17 lions, 11 elephants, 20 rhinoceroses and ten buffalo. As Bartle Bull records, the expedition collected and shipped home to the Smithsonian 4,900 mammals, 4,000 birds, 500 fish and 2,000 reptiles.

The godfather of the teddy bear was given to fierce inconsistencies as hunter and conservationist. He shot animals for "the strong eager pleasure of it." He relished toasting slices of elephant heart on a pronged stick over a fire. Shockingly, he killed nine rare white rhinoceroses, including four cows and a calf. In Mississippi in 1902, TR refused to shoot the proto-teddy bear. But in Africa in 1909, he shot his first white rhino when the animal was asleep. TR had the good grace to be self-conscious about all this. He defended the use of so much ammunition; plenty was available, why not use it? Collecting specimens for museums provided moral cover for the carnage—the interests of science and education.

"The land teems with beasts of the chase," wrote Roosevelt (in Africa c. 1909).

This issue of SMITHSONIAN raises questions about another American's prowess and myth. Paul Gray describes the remarkable trajectory of William Faulkner's reputation from 1944, when his books were virtually out of print, to 1950, when he received the Nobel Prize.

Faulkner's famous fictional bear, like Teddy Roosevelt's wretched real one, was a Mississippian. How different the two men's mental Americas were—TR's vigorous, bloody, bully place, and Faulkner's Yoknapatawpha County, where the gene pool runs to swamp, and prose reeks of lassitude and degeneration.

In his Nobel speech, delivered under the shadow of nuclear terror, Faulkner famously said that man "will prevail." The statement, if you hold it up to a certain light, is probably as fatuously sentimental as the cartoon of Roosevelt sparing the bear.

Lance Morrow is an essayist for Time *and a University Professor at Boston University.*

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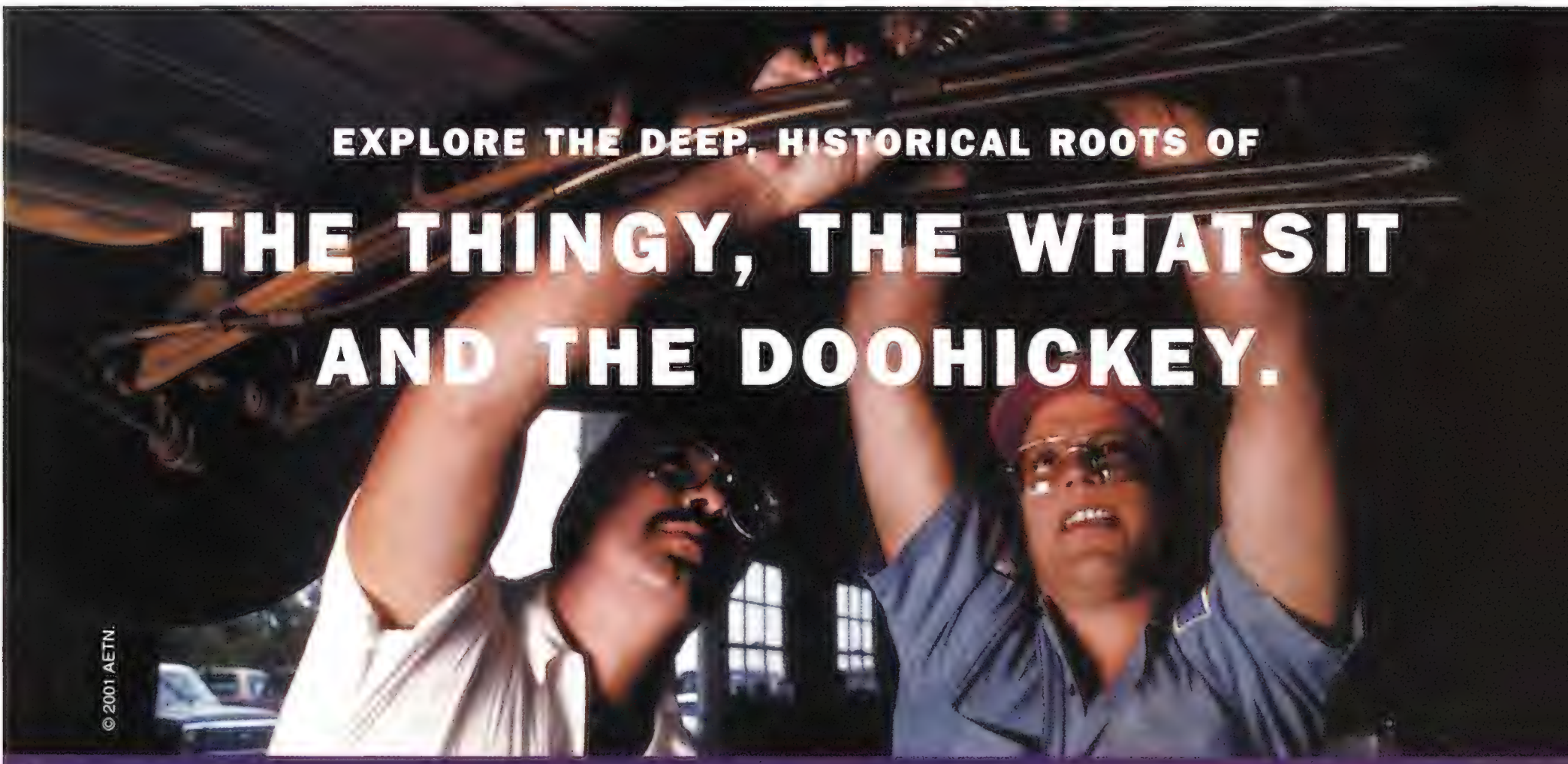

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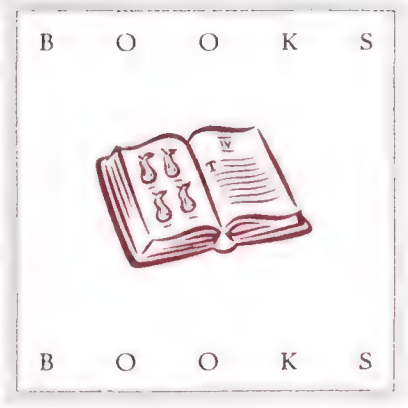
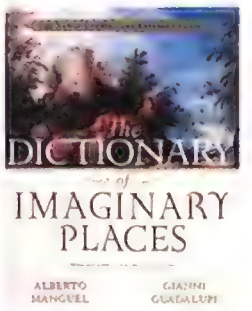


The Dictionary of Imaginary Places

Alberto Manguel and Gianni Guadalupi
Harcourt, $40
Harvest Books, $22.50



IN THE FOREWORD to this intriguing Michelin of the Mind, the authors claim that "the imaginary universe is a place of astonishing richness and diversity." They make the case in more than 1,200 entries, commencing with Abaton, a mythical settlement in the Scottish Highlands, said to be glimpsed occasionally on the horizon, "especially at dusk." The quirky tour concludes in Zuy, a "prosperous Elfin kingdom" and leading exporter of music boxes. This updated edition includes such locales as Michael Crichton's Jurassic Park and J. K. Rowling's Hogwarts, where Harry Potter hones his wizardry.

It's easy to forget these are not places one can actually visit. Travelers to Anastasia, for example, are encouraged to "taste the flesh of the golden pheasant, cooked over fires of seasoned cherry wood and sprinkled with a lot of sweet marjoram." When visitors to Present Land find their watches stopped, they would do well to accept the fact that "this is normal; complaints should not be made to the manufacturers."

Clearly, the authors are having fun. In the entry for Oz, Dorothy Gale is characterized as "famous for her envy of flying bluebirds and her nonmeteorological interest in rainbows." Sleeping Beauty's Castle, we learn, later was copied by "King Ludwig II of Bavaria, and by Mr. Walt Disney of Chicago in the United States."

Many of the places and writers are familiar: Camelot, Atlantis, El Dorado, Brigadoon; Homer, Shakespeare, Tolkien and Twain. But not all the realms will send the reader running for a passport. On the Weeping Isle, natives daily sacrifice a young girl to a killer whale; on another mythical island, cannibals consign their victims to dishes that are "cooked and served with heavy sauces."

Still, I intend to keep *The Dictionary of Imaginary Places* handy, to be consulted whenever I feel the need for a draught of whimsy laced with magic.

Reviewer Emily d'Aulaire's favorite fantasy title is Carl Sandburg's Rootabaga Stories.

The Look of Architecture

Witold Rybczynski
Oxford University Press, $22

"LESS IS MORE," insisted minimalist architect Mies van der Rohe, which could also apply to this breezy little book on architectural styles. In its conversational 119 pages, *The Look of Architecture* lays out the history of changing architectural fashions, from the icons of ancient Greece and Rome to Postmodernist interpretations such as the Chippendale-topped skyscraper of Philip Johnson and John Burgee in New York. Many writers might make this subject as dry as Sheetrock, but Witold Rybczynski makes it a romp. And who could expect any less from the man who made "A natural history of the screwdriver and the screw" into a best-seller?

Rybczynski not only writes well,

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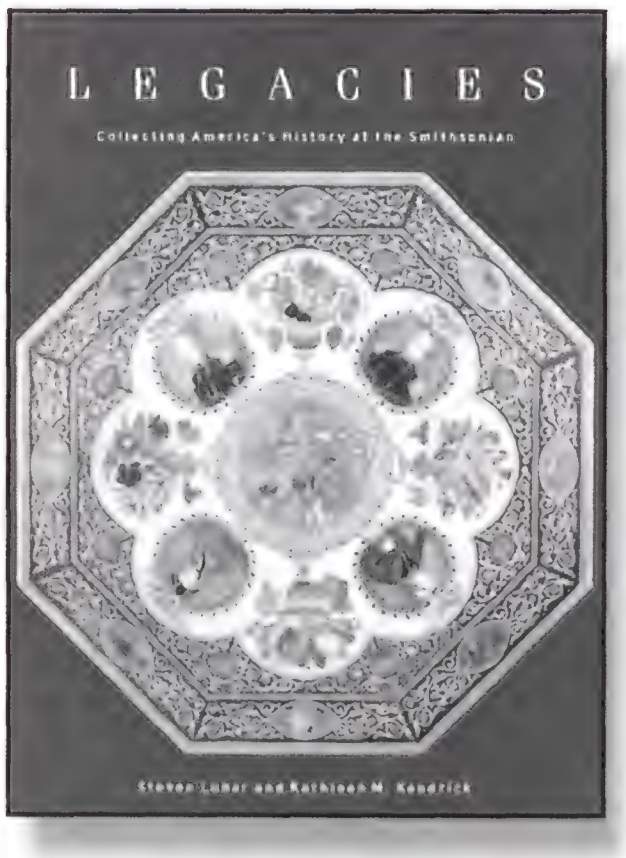

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Steven Lubar and Kathleen M. Kendrick
Foreword by Spencer R. Crew

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he relates architecture to our lives. In describing Radio City Music Hall, which opened in 1932, for example, he doesn't neglect the Rockettes, whose synchronized high jinks are as much a kick as the building's dazzling design. On a more homely level, he faults architectural photography that always shows a house's interior without any people in it and "styled" to remove any messy traces of life. Rybczynski humanizes architects as well as architecture, peppering his pages with lively quotes and salty opinions from the masters. Where the great English critic John Ruskin considered Gothic architecture a moral force, for instance, the illustrious English architect Christopher Wren called it "a fantastical and licentious manner of building."

And Rybczynski offers plenty of his own opinions, both provocative and entertaining. He approves of a Walt Disney office in Burbank, California, that features columns carved as human figures in the classical manner of Athenian caryatids—but substitutes the Seven Dwarfs for the graceful maidens of ancient Greece. "The headquarters of a company whose logo is a pair of mouse ears obviously demands a different decorum from a temple," he observes. But while "Shingle style cottages are pleasing," he writes, "A Shingle Style Home Depot is ridiculous."

Writer Paul Trachtman covers science and the arts from New Mexico.

Pearl's Secret: A Black Man's Search for His White Family

Neil Henry
University of California Press, $24.95

"THE WHITE MAN'S NAME WAS RARELY mentioned in our house when I was growing up," confides author Neil Henry. And when it was, "my mother and her family would lower their

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Author Neil Henry, a former correspondent at the *Washington Post*, is a journalism professor at Berkeley.

voices as if they were telling a secret too sensitive or perhaps even shameful for outsiders or youngsters to hear." But Henry heard enough to ignite his curiosity about the Confederate Army veteran named A. J. Beaumont, whose affair with a former slave in St. Joseph, Louisiana, produced a daughter named Pearl, Henry's great-grandmother.

Pearl's Secret is essentially the story of the author's quest to learn about the white branch of his family. From the outset, his tale deftly balances candor and objectivity, reeling in the reader with vivid reportage and nonthreatening discourse. But it soon produces layers of emotions worthy of any drama. Henry admits his biggest obstacle turned out to be "an internal emotional war over my feelings about race . . . feelings that went back to my growing up as a black child in white middle-class Seattle in the 1960s."

Thus, this genealogical detective story also becomes part memoir, part family chronicle and part history lesson. It tells the story of his black ancestors, struggling against racism from Reconstruction through the Civil Rights movement, and carrying out honorable, respectable lives.

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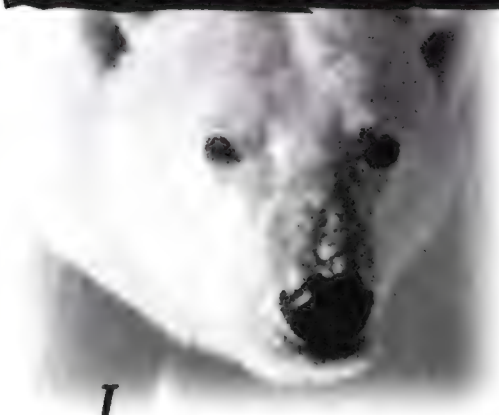

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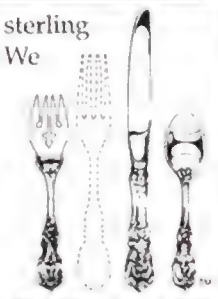

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As Henry outlines his family's racial experiences, he takes readers with him on an odyssey about covert feelings about race and about family members who remain hidden in the attics of our houses or our minds. It is also about the contradictions that lie even within families. (Henry's advocated and practiced black pride even as they considered hair less African in texture as "good hair.")

Henry attempts to come to terms with the confusion he feels over his dual racial heritage. He had often wondered as a child how Beaumont, "this personification in my mind of America's racist past," could be "a part of us." Yet Beaumont was not unlike countless white men who fought against black equality even as they fathered children by black women. Pearl was one of thousands of children whose white fathers, known as pillars of their communities, felt neither moral nor financial responsibility for their mixed-race offspring.

So what compelled Henry to learn about the white ancestor who had cast his great-grandmother aside? "I wanted to be able to offer my daughter someday a better understanding of my family's racial history than I had had," he writes.

When he does locate the white, downwardly mobile, Beaumont descendants, the web of emotions and insights he experiences makes the long search through graveyards, newspapers, courthouse records and personal conflict worth the effort.

"I wanted to show people . . . that blacks were just as smart, courageous, and strong, if not more so, than any people in America." Yet, in the end, none of this mattered. What was increasingly clear, he says, was "the cancerousness, the sheer wastefulness, of racial prejudice and bigotry, and the sinister way they can replicate themselves from one willing generation to the next."

Henry may not have fashioned the "bridge over the chasm between

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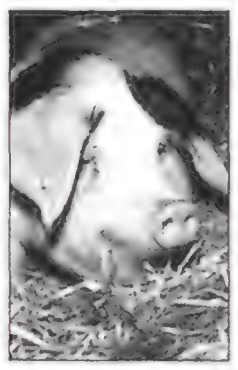

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white and black" that he had hoped for, but he did build a bridge, of sorts, with his great-grandmother. For, ironically, it was a deeper understanding of Pearl, who lived on the edge of two worlds, belonging to neither, that ultimately helps bring together two branches of the disparate family she had longed to see united.

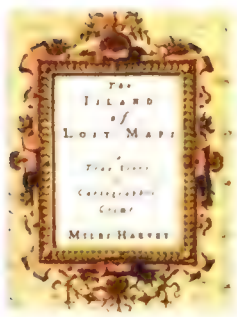
Lucinda Moore is an associate editor at SMITHSONIAN.

The Island of Lost Maps: A True Story of Cartographic Crime

Miles Harvey

Random House, $24.95

Broadway Books, $14.95



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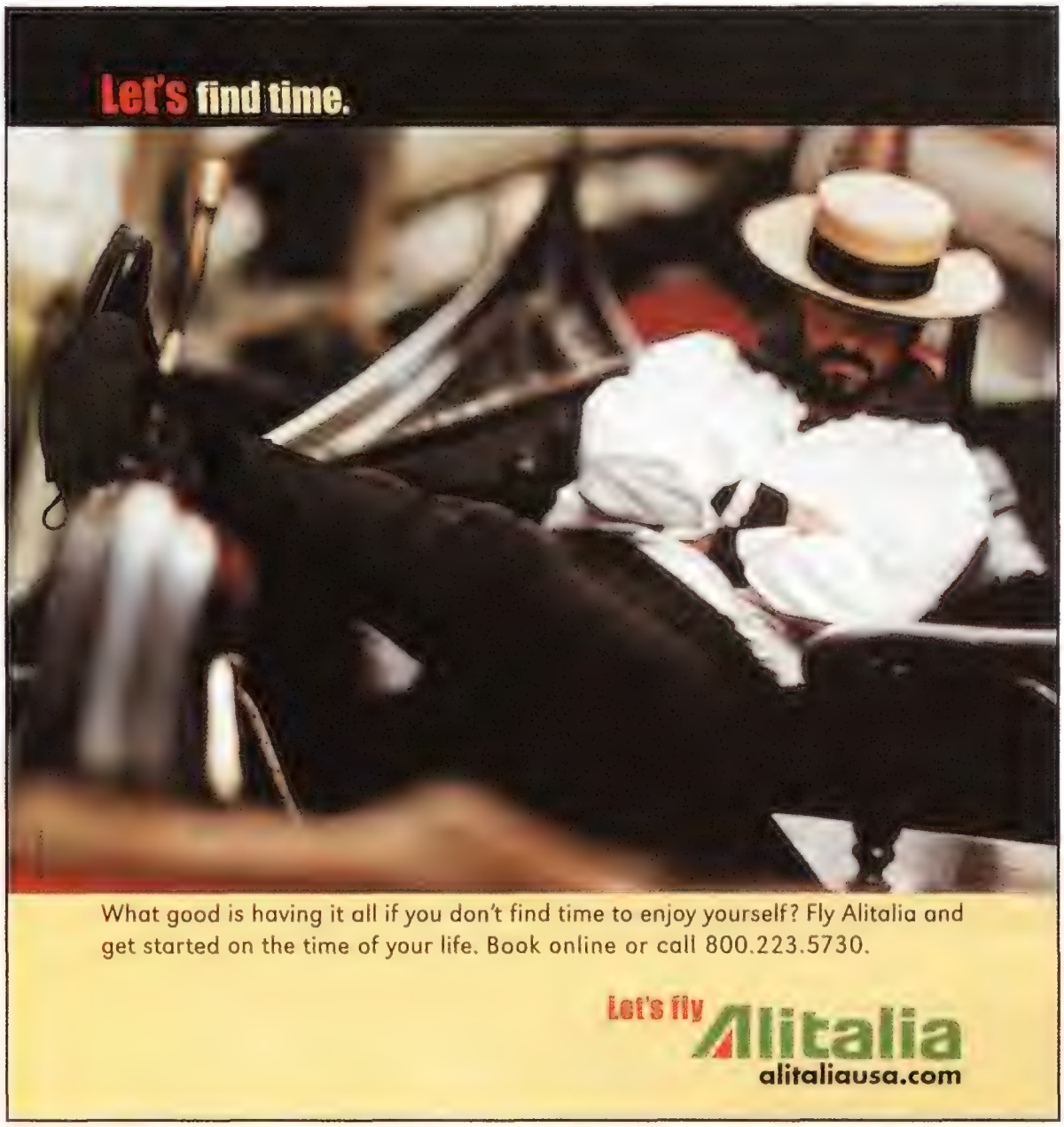
In *The Island of Lost Maps*, journalist Miles Harvey embarks on a journey, at once circuitous and compelling, into the dark heart of a map thief. When caught razor blading maps from books in Baltimore's Peabody Library in 1995, Gilbert Bland carried a red notebook filled with priceless maps. Bland—who would become known as the Al Capone of cartography—had stolen from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In documenting Bland's crimes, Harvey sets out on his own quixotic quest. He is determined not only to investigate the motives of the map thief but also to understand his own passion for sheaves of paper depicting the world. His sleuthing takes us inside rare-book rooms, map dealers' offices, auction houses, cartographic studios, even to the launch of a satellite that will map the world from space. At the epicenter of "cartomania"—Sotheby's auction house—he records the bidding frenzy that caused Ptolemy's atlas *Geographica* to go for $1.15 million.

Gilbert Bland, it turns out, was scarcely the first of his kind. Stolen maps helped Columbus on his journey, guided Magellan and Sir Francis Drake, and provided the Allies invaluable intelligence on D-day.

As for Bland, his moniker proved entirely apt. A chameleon of a man who assumed many false identities, he slipped in and out of rare-book rooms almost unnoticed. Harvey elucidates the carefully honed techniques that enabled Bland to pilfer hundreds of maps without a trace.

Ironically enough, Harvey explains, library theft is aided by both law enforcement and librarians. Police rarely consider map theft as important as other crimes. Librarians often are unwilling to admit that such crimes could occur within their sanctuaries. What would potential donors think? Even in the wake of Bland's confessions, only 4 of the 19 libraries he had robbed pressed charges against him. *The Island of Lost Maps* is not so much an island as an archipelago, comprising dozens of seductive stories, by turns intriguing, amusing and erudite. It turns out maps are a kingdom unto themselves, replete with their own culture, history and peoples. We would be lost without them.

Bruce Watson writes frequently on history and popular culture.

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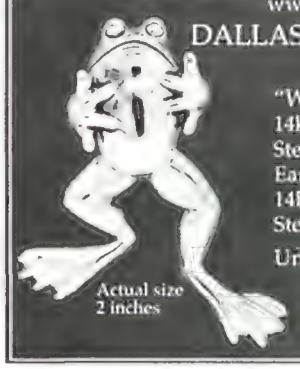

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Fly: The Unsung Hero of 20th-Century Science

Martin Brookes

The Ecco Press, $24

EARLY IN THE 20TH century, as scientists investigated Charles Darwin's theories of evolution, researchers relied upon a small menagerie of creatures, including aphids, frogs, toads, wild rats, mice and even earthworms. Then, in 1910, geneticist Thomas Hunt Morgan suggested that one of his Columbia University graduate students use fruit flies in an experiment. The study would test whether the subjects' eyes decreased in size when generation upon generation—a sequence of 49 in all—lived in complete darkness.

In fact, no change whatever occurred. But the otherwise unremarkable experiment yielded an unexpected bonus. As Martin Brookes writes in his engaging *Fly: The Unsung Hero of 20th-Century Science*, Morgan realized the lowly fruit fly offered his team a chance to study evolution in fast-forward mode. Fruit flies did what other animals did, only faster and cheaper. Birth, sex and death occurred within a couple of wild and woolly weeks. A half-pint milk bottle and some rotting fruit provided low-cost habitat and food. "It is wonderful material," Morgan wrote to a friend. "They breed all year and give a new generation every twelve days."

Morgan and his team created the "Fly Room" in Columbia's Schermerhorn Hall, breeding millions of flies for use in genetic studies. "Before the fly," Brookes writes, "ideas about biological inheritance were a strange amalgam of crackpot hypotheses, myth and superstition. But at Columbia, the subject was rapidly transformed into a coherent science as Morgan and the fly began to lay the foundations of modern genetics."

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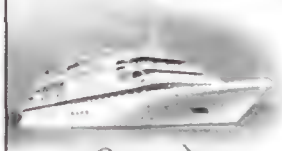

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Brookes' lively account surveys the history of 20th-century biology, using the fruit fly, *Drosophila melanogaster*, as a guide. Not only did *Drosophila*-based research pioneer modern genetics, it continues to aid in the exploration of cloning, aging, addiction, gene therapy, memory and sex differences. "The rules that apply to a population of flies," Brookes notes, "are the same as those that apply to populations of moths, aardvarks and humans—even to a population of cancer cells in a growing, evolving tumour."

Brookes' story never descends to the mind-numbing minutiae of a biology textbook, as he introduces us to an intriguing cast of characters, including Hermann Muller, the University of Texas researcher who first used x rays to induce mutations in fly chromosomes and who later won the 1946 Nobel Prize in Medicine.

To conclude his journey through a fly's century, Brookes goes to Columbia, looking for the Fly Room created by Morgan and his colleagues. He finds Schermerhorn Hall and walks the corridors. But the room no longer exists, he later learns; not so much as a commemorative plaque marks the spot.

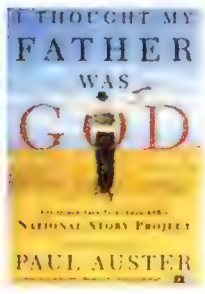
Fortunately, Brookes has created his own delightful tribute to the fruit fly's enduring legacy.

Jim Morrison is a freelancer who is based in Norfolk, Virginia.

I Thought My Father Was God: and Other True Tales from NPR's National Story Project

Paul Auster, editor

Henry Holt, $25



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idea was to invite members of the NPR audience to submit stories—brief, true and close to the bone—to be read on the air: the National Story Project, as they rather grandly named it. They didn't expect literature, exactly, but what Auster called a "museum of American reality."

The stories flooded in, astonishing Auster with both their quantity and, often enough, their quality. Since he could read only a half dozen a month on the air, he culled the 4,000-plus submissions in the project's first year to come up with the 179 that appear in this book. A third of the submitted pieces, Auster reports, are about families. Too many of them, I can report, are about coincidences. (Does the *Guinness Book* happen to keep records that document coincidences?) My favorite: a couple meet when they're forced to sit together at a crowded restaurant. She gives him her phone number. He proceeds to lose it. Later that year each travels to Europe, and once again they find themselves—you guessed it—seated together at the same table. They fall in love. Sometimes, as a friend used to say, things are so corny they're good.

The quality of the writing—though not all of it—is surprisingly high. Rick Beyer introduces his grandmother by way of her perfume—"the ninety-proof, render-the-victim-unconscious, moose-killing variety." She got him to eat his peas, whenever the noxious legume appeared on his plate, by paying him $5. This so wounded his mother that she uttered words that instilled guilt and have haunted him ever since: "You ate them for money, you can eat them for love." Then there is Dede Ryan's inspired meditation on the difference between martinis and beer: "Martinis are subtle, introspective, reflective . . . beer is verbose and unedited. Beer is showy and full of jokes. Lawyers, salesmen, sports enthusiasts."

Many of these stories are forgettable, a few actively annoying, but some are the kind that stay with you

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Cultivating Delight: A Natural History of My Garden

Diane Ackerman
HarperCollins, $25

IN HER LATEST BOOK, *CULTIVATING Delight*, Diane Ackerman ruminates on a year in her garden. As in her best-selling *A Natural History of the Senses*, she here takes us down many different paths, sometimes horticultural and sometimes philosophical, literary or mythological. She reminds us that the "bright red anemones that bloom in the summer take their name from Adonis," who was hunting when a wounded boar gored him. Dying in excruciating agony, Adonis wept. And where the god's tears "fell to the ground, delicate red flowers bloomed."

During warm months, she hangs birdhouses and snips flowery displays for her vast vase collection. In fall, as hummingbirds migrate south and maple trees redden, Ackerman can be found loading asters into her hatchback to keep her garden colorful for as long as weather permits. Even in winter, as her garden sleeps, she perches in a bay window, impatiently planning for the ground's rebirth.

Ackerman fans will welcome her lyrical take on nature. Redbud blossoms "polka-dot the branches with hot pink tufts," while other trees "wear gray-green pantaloons of lichen." With so much material to cover, Ackerman sometimes loses her way, leaving the reader grasping at a thin narrative vine.

Kathryn Brown is a correspondent for the magazine Science.

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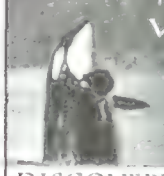

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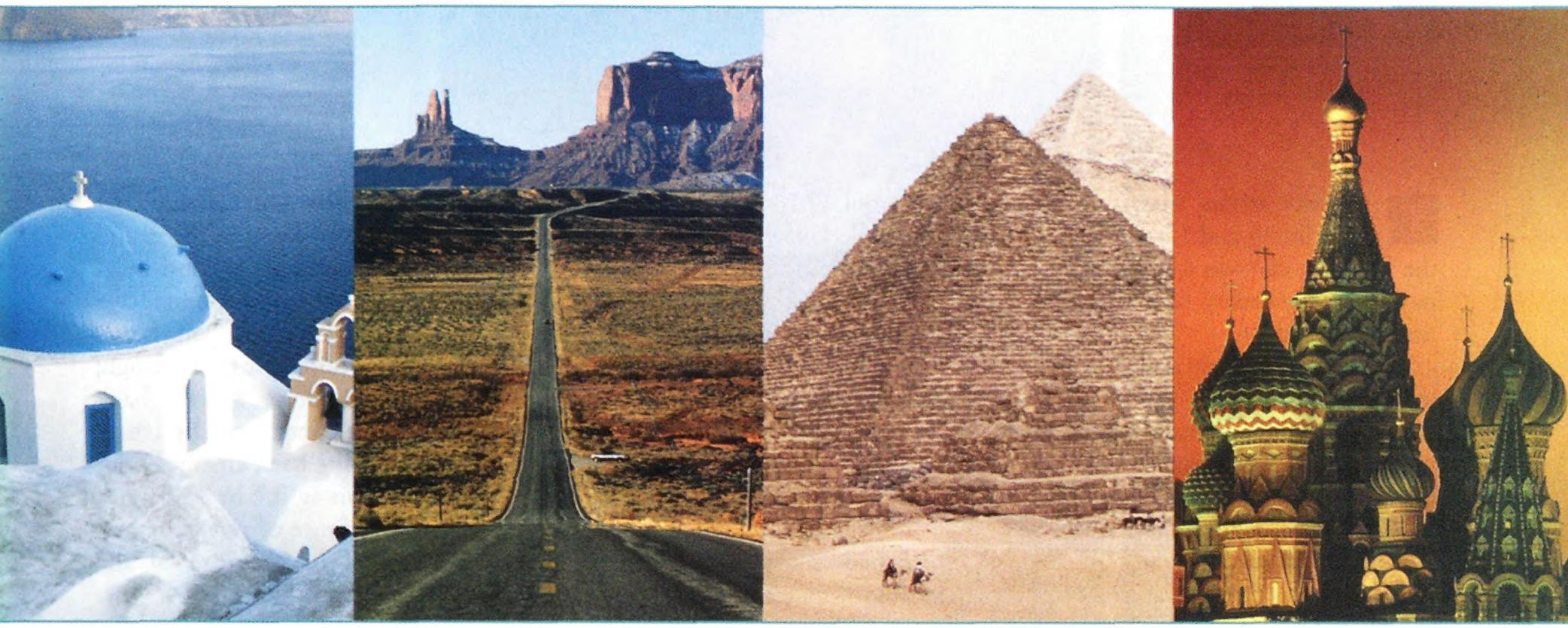

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Harmonious Cord

BY CYNTHIA CAVNAR

THEY SAY EVERY CLOUD HAS A silver lining and I have to agree: the loss of a car was a small price to pay for the recovery of the ancestral umbilical cord.

The problem with a 100-year-old umbilical cord is that it looks like a hardened bit of old string. Misplace it in the trunk of your automobile, already littered with the debris of years of hard driving, and it's gone forever. Or so we thought.

This curious relic came to us from my husband's side of the family, the Japanese side. The Japanese have a long tradition of saving the umbilical cords of their children as mementos of the happy occasion of birth. My ancestors, Irish and plainspoken, found the actual child memento enough. Nevertheless, when my mother-in-law sent along the umbilical cord of her father, Kutaro, I suppressed my first instinct—to wonder why our friends inherit stocks and bonds while we inherit mummified body parts—and graciously assumed responsibility for protecting the venerable item. In other words, after showing the cord to my delighted husband and children, I quietly put it away in a drawer.

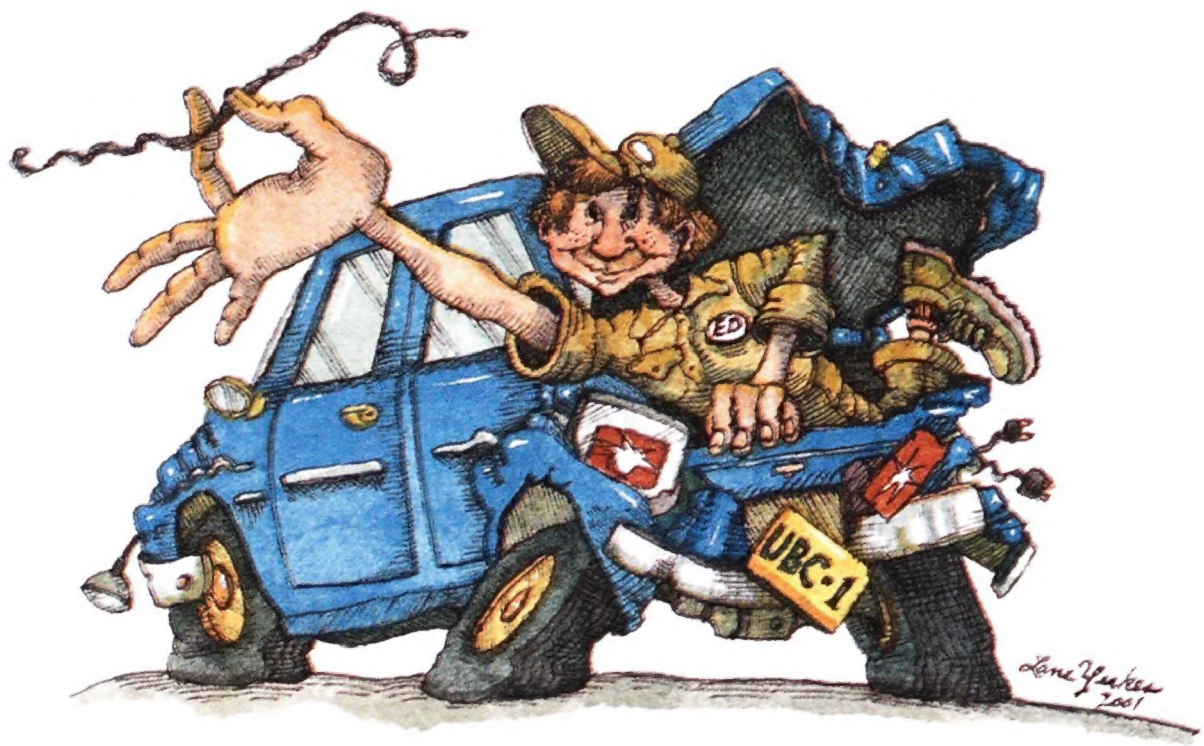
But children never forget, and one day our fourth-grader decided he wanted to take the heirloom to school for cultural heritage day. "I don't think this is what the teacher had in mind," I told him, but he prevailed, and needless to say, his presentation was a crowd-pleaser—these were 10-year-olds, after all.

The cord gave me the creeps, though, and so for the drive home from school, I consigned it, in its box, to the trunk. Unfortunately, it worked its way free and into some uncharted abyss. Although we searched from time to time over the next few years, we never found it. We began to think of the car as a very large reliquary.

Then a pickup truck blew through a stop sign, totaling our vehicle. I walked away with hardly a scratch and wondered, at that moment, if Kutaro hadn't somehow extended a measure of paternal protection. I thought with remorse of my neglect of family duty and the fact that the search for the ancestral remains was undoubtedly over.

But what did I know of salvage yards, or the sensitive souls who run them? The proprietor at mine was a friendly fellow who seemed to perceive my dejection. He helped me clear out the car and then watched quietly as I continued to root through an obviously empty trunk. "Was there something else?" he asked delicately. Well, why not? "There's an old umbilical cord loose in there, and we've never been able to find it," I said without elaboration. I must have sounded deranged. And then, here's the wonderful thing. He didn't laugh, or ask questions, or slowly back away. He just turned to the trunk and, half a minute later, emerged with the prize. "This is it," he said with the serene assurance of an expert witness schooled in the lore of the ancient cord. I still don't know how he did it.

I now take my role as the Keeper of the Cord more seriously. I bought a little silver box, placed the relic inside, and put it on the mantel. My husband is pleased. Our guests are puzzled but polite. As for me, I still think about the guy from the salvage yard. He may live on the edge of the Midwestern plains but deep inside him burns the spirit of the East. Perhaps, in some small way, I, too, have been enlightened.



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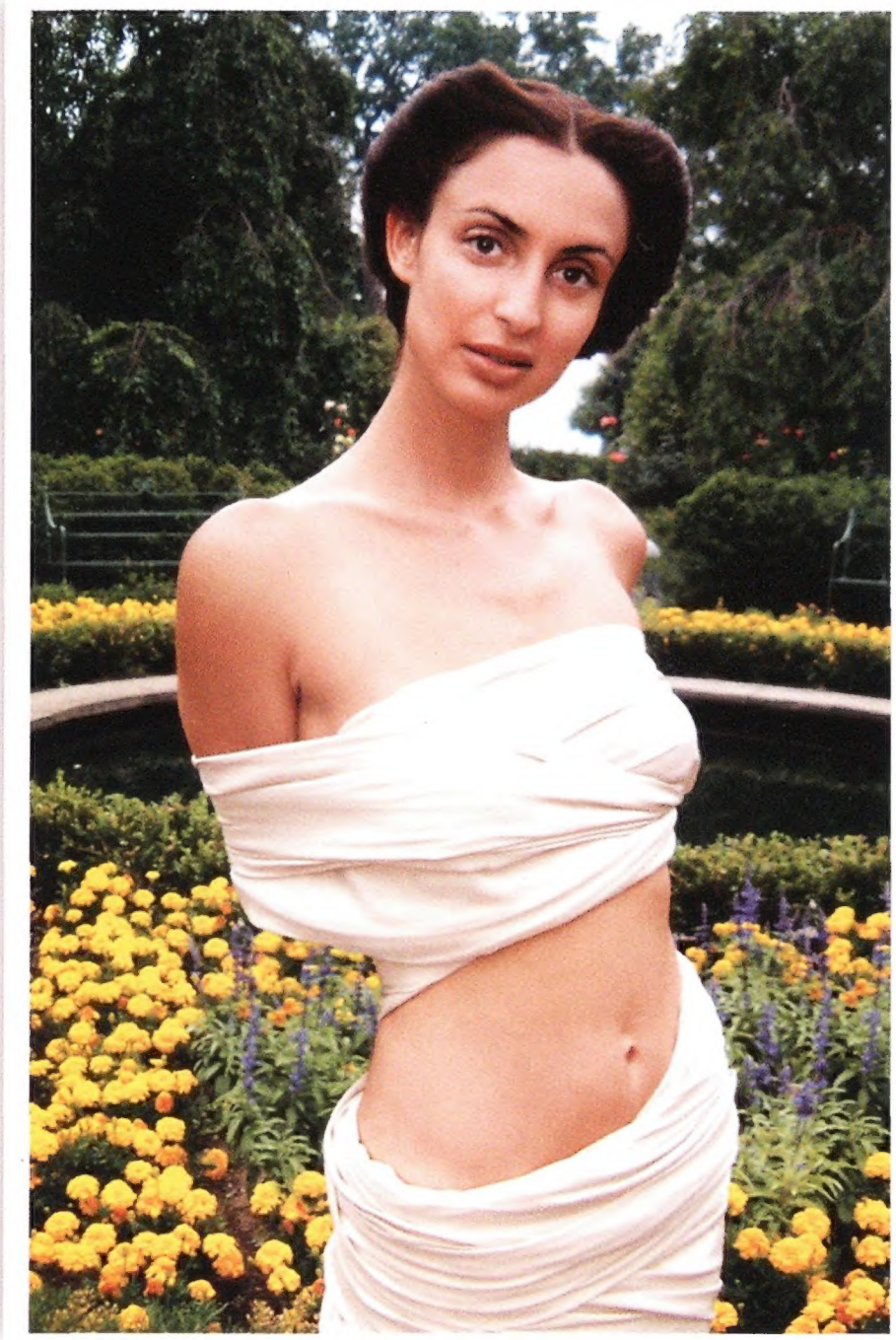

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